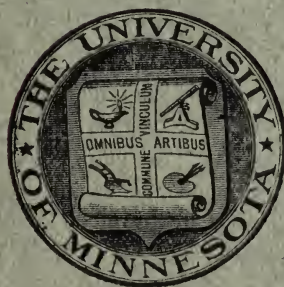


The University of Minnesota

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GENERAL INFORMATION

1912-1913



BULLETIN OF THE UNIVERSITY OF MINNESOTA
VOL. XV, NO. 15. AUGUST 1912

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1912-1913



BULLETIN OF THE UNIVERSITY OF MINNESOTA
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The University catalogues are published by authority of the Board of Regents, as a regular series of bulletins. One bulletin for each college and one for the Summer Session is published every year and in addition a bulletin of general information outlining the entrance requirements of all colleges of the University, and embodying such items as University equipment, organizations and publications, expenses of students, loan and trust funds, scholarships, prizes, etc. Bulletins will be sent gratuitously, postage paid, to all persons who apply for them. In calling for bulletins, the college or school of the University concerning which information is desired should be stated. Address,

THE REGISTRAR,

The University of Minnesota,

Minneapolis, Minnesota

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| 1912 | | | | | | | 1913 | | | | | | | | | | | | | |
|-----------|----|----|----|----|----|----|----------|----|----|----|----|----|----|-----------|----|----|----|----|----|----|
| JULY | | | | | | | JANUARY | | | | | | | JULY | | | | | | |
| Su | Mo | Tu | W | Th | Fr | Sa | Su | Mo | Tu | W | Th | Fr | Sa | Su | Mo | Tu | W | Th | Fr | Sa |
| .. | 1 | 2 | 3 | 4 | 5 | 6 | .. | .. | .. | 1 | 2 | 3 | 4 | .. | .. | 1 | 2 | 3 | 4 | 5 |
| 7 | 8 | 9 | 10 | 11 | 12 | 13 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| 28 | 29 | 30 | 31 | .. | .. | .. | 26 | 27 | 28 | 29 | 30 | 31 | .. | 27 | 28 | 29 | 30 | 31 | .. | .. |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| AUGUST | | | | | | | FEBRUARY | | | | | | | AUGUST | | | | | | |
| .. | .. | .. | .. | 1 | 2 | 3 | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | 1 | 2 |
| 4 | 5 | 6 | 7 | 8 | 9 | 10 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 18 | 19 | 20 | 21 | 22 | 23 | 24 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 25 | 26 | 27 | 28 | 29 | 30 | 31 | 23 | 24 | 25 | 26 | 27 | 28 | .. | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 31 | .. | .. | .. | .. | .. | .. |
| SEPTEMBER | | | | | | | MARCH | | | | | | | SEPTEMBER | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | .. | .. | .. | .. | .. | .. | 1 | .. | 1 | 2 | 3 | 4 | 5 | 6 |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| 29 | 30 | .. | .. | .. | .. | .. | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 28 | 29 | 30 | .. | .. | .. | .. |
| .. | .. | .. | .. | .. | .. | .. | 30 | 31 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| OCTOBER | | | | | | | APRIL | | | | | | | OCTOBER | | | | | | |
| .. | .. | 1 | 2 | 3 | 4 | 5 | .. | .. | 1 | 2 | 3 | 4 | 5 | .. | .. | .. | 1 | 2 | 3 | 4 |
| 6 | 7 | 8 | 9 | 10 | 11 | 12 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| 13 | 14 | 15 | 16 | 17 | 18 | 19 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| 20 | 21 | 22 | 23 | 24 | 25 | 26 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| 27 | 28 | 29 | 30 | 31 | .. | .. | 27 | 28 | 29 | 30 | .. | .. | .. | 26 | 27 | 28 | 29 | 30 | 31 | .. |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| NOVEMBER | | | | | | | MAY | | | | | | | NOVEMBER | | | | | | |
| .. | .. | .. | .. | .. | 1 | 2 | .. | .. | .. | .. | 1 | 2 | 3 | .. | .. | .. | .. | .. | .. | 1 |
| 3 | 4 | 5 | 6 | 7 | 8 | 9 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| 24 | 25 | 26 | 27 | 28 | 29 | 30 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 23 | 24 | 25 | 26 | 27 | 28 | 29 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 30 | .. | .. | .. | .. | .. | .. |
| DECEMBER | | | | | | | JUNE | | | | | | | DECEMBER | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 7 | 1 | 2 | 3 | 4 | 5 | 6 |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| 29 | 30 | 31 | .. | .. | .. | .. | 29 | 30 | .. | .. | .. | .. | .. | 28 | 29 | 30 | 31 | .. | .. | .. |

UNIVERSITY CALENDAR

1912-1913

The University year covers a period of thirty-eight weeks, beginning on the second Tuesday in September. Commencement Day is always the second Thursday in June.

1912

| | | | |
|-------------------|-------|-----------|---|
| September | 3 | Tuesday | Registration closes except for new students |
| September | 3-10 | Week | Fees payable except for new students |
| September | 10-16 | Week | Entrance examinations, registration of new students, and payment of fees |
| September | 11-17 | Week | Military encampment of cadets |
| September | 18 | Wednesday | First semester begins |
| Sept. 30 - Oct. 5 | Week | | Second semester condition examinations in College of S., L., A., Agriculture, and Chemistry |
| October | 7 | Monday | School of Agriculture session opens |
| November | 27 | Wednesday | Thanksgiving recess begins 6:00 p. m. |
| December | 2 | Monday | Thanksgiving recess ends 8:00 a. m. |
| December | 20 | Friday | Christmas vacation begins 6:00 p. m. |

1913

| | | | |
|-----------------|------|-----------|--|
| January | 7 | Tuesday | Christmas vacation ends 8:00 a. m. |
| January | 21 | Tuesday | Registration for second semester closes |
| January | 27 | Monday | Final examinations begin |
| January | 28 | Tuesday | Payment of fees for second semester closes |
| February | 5 | Wednesday | Second semester begins |
| February | 12 | Wednesday | Lincoln's Birthday: a holiday |
| February | 13 | Thursday | First semester class reports due |
| February | 22 | Saturday | Washington's Birthday: a holiday |
| March | 19 | Wednesday | Easter recess begins 6:00 p. m. |
| March | 27 | Thursday | Easter recess ends 8:00 a. m. |
| March 31-Apr. 5 | Week | | First semester condition examinations in College of S., L., A., Agriculture, and Chemistry |
| May | 30 | Friday | Decoration Day: a holiday |
| June | 2 | Monday | Final examinations begin |
| June | 7 | Saturday | Second semester closes |
| June | 8 | Sunday | Baccalaureate service |
| June | 9 | Monday | Senior class day exercises |
| June | 11 | Wednesday | Alumni Day |
| June | 12 | Thursday | Forty-first Annual Commencement |
| June | 13 | Friday | Summer vacation begins |

The University year for 1913-14 will begin Tuesday, September 9.

Program of Entrance Examinations 1912-13

Entrance examinations for admission to the various colleges of the University will be conducted according to the following schedule, in Room 205, Library Building, unless otherwise specified.

Any student finding a conflict in his program should report to the Registrar for adjustment.

| | | | |
|------------|----------|---------|--|
| Tuesday, | Sept. 10 | 9 a. m. | Astronomy, Botany, Geology, Chemistry, Physiography, Zoology |
| | | 2 p. m. | American Government, History, Physics, Economics, Commercial Geography |
| Wednesday, | Sept. 11 | 9 a. m. | English |
| | | 2 p. m. | German, French, Latin, Scandinavian |
| Thursday, | Sept. 12 | 9 a. m. | Elementary Algebra |
| | | 2 p. m. | Higher Algebra |
| Friday, | Sept. 13 | 9 a. m. | Plane Geometry |
| | | 2 p. m. | Solid Geometry |

A representative of each department will be at the office of the head of the department each forenoon of entrance examination week from 9 to 12 to give information and advice.

THE UNIVERSITY

THE UNIVERSITY OF MINNESOTA comprises the following named schools, colleges, and departments:

THE COLLEGE OF SCIENCE, LITERATURE, AND THE ARTS

THE COLLEGE OF ENGINEERING AND THE MECHANIC ARTS

THE DEPARTMENT OF AGRICULTURE, including—

THE COLLEGE OF AGRICULTURE

THE COLLEGE OF FORESTRY, including—

FOREST EXPERIMENT STATIONS AT ITASCA AND CLOQUET

THE SCHOOL OF AGRICULTURE, including—

THE DAIRY SCHOOL

THE SHORT COURSE FOR FARMERS

TEACHERS' SUMMER TRAINING SCHOOL

THE SCHOOL OF TRACTION ENGINEERING

THE SCHOOL OF AGRICULTURE, CROOKSTON

THE SCHOOL OF AGRICULTURE, MORRIS

THE EXPERIMENT STATIONS, including—

THE MAIN STATION AT ST. ANTHONY PARK

THE SUB-STATION AT CROOKSTON

THE SUB-STATION AT GRAND RAPIDS

THE SUB-STATION AT DULUTH

TH SUB-STATION AT WASECA

THE SUB-STATION AT ZUMBRA HEIGHTS

AGRICULTURAL EXTENSION

BUREAU OF RESEARCH IN AGRICULTURAL ECONOMICS

THE LAW SCHOOL

THE COLLEGE OF MEDICINE AND SURGERY, including—

THE SCHOOL FOR NURSES

THE COLLEGE OF DENTISTRY

THE COLLEGE OF PHARMACY

THE SCHOOL OF MINES, including—

MINNESOTA SCHOOL OF MINES EXPERIMENT STATION

THE SCHOOL OF ANALYTICAL AND APPLIED CHEMISTRY

THE COLLEGE OF EDUCATION

THE GRADUATE SCHOOL

THE GEOLOGICAL AND NATURAL HISTORY SURVEY

THE BOARD OF REGENTS

| | | | |
|---|---|---|-------------------|
| The Hon. JOHN LIND, Minneapolis, President of the Board | - | - | 1914 |
| GEORGE EDGAR VINCENT, Ph.D., LL.D., Minneapolis | - | - | <i>Ex-Officio</i> |
| The President of the University | | | |
| The Hon. ADOLPH O. EBERHART, Mankato | - | - | <i>Ex-Officio</i> |
| The Governor of the State | | | |
| The Hon. C. G. SCHULZ, St. Paul | - | - | <i>Ex-Officio</i> |
| The State Superintendent of Public Instruction | | | |
| The Hon. W. J. MAYO, Rochester | - | - | 1913 |
| The Hon. MILTON M. WILLIAMS, Little Falls | - | - | 1913 |
| The Hon. HENRY B. HOVLAND, Duluth | - | - | 1914 |
| The Hon. A. E. RICE, Willmar | - | - | 1915 |
| The Hon. CHARLES L. SOMMERS, St. Paul | - | - | 1915 |
| The Hon. B. F. NELSON, Minneapolis | - | - | 1916 |
| The Hon. PIERCE BUTLER, St. Paul | - | - | 1916 |
| The Hon. CHARLES A. SMITH, Minneapolis | - | - | 1916 |

EXECUTIVE OFFICERS

| |
|--|
| GEORGE EDGAR VINCENT, Ph.D., LL.D., President |
| ERNEST B. PIERCE, B.A., Registrar |
| GEORGE H. HAYES, University Comptroller and Secretary of the Board of Regents |
| JAMES T. GEROULD, B.A., Librarian |
| JOHN F. DOWNEY, M.A., C.E., Dean of the College of Science, Literature, and the Arts |
| FRANCIS C. SHENEHON, C.E., Dean of the College of Engineering and Mechanic Arts |
| ALBERT F. WOODS, M.A., Dean and Director of the Department of Agriculture |
| WILLIAM R. VANCE, Ph.D., LL.B., Dean of the Law School |
| FRANK FAIRCHILD WESBROOK, M.A., M.D., C. S., Dean of the College of Medicine and Surgery |
| ALFRED OWRE, B.A., M.D., C.M., D.M.D., Dean of the College of Dentistry |
| FRÉDERICK J. WULLING, Phm.D., LL.M., Dean of the College of Pharmacy |
| WILLIAM R. APPLEBY, M.A., Dean of the School of Mines |
| GEORGE B. FRANKFORTER, M.A., Ph.D., Dean of the School of Chemistry |
| GEORGE F. JAMES, Ph.D., Dean of the College of Education |
| HENRY T. EDDY, C.E., Ph.D., LL.D., Dean of the Graduate School |
| ADA L. COMSTOCK, M.A., Dean of Women |

THE UNIVERSITY OF MINNESOTA

OFFICERS OF INSTRUCTION AND ADMINISTRATION

FACULTY

- GEORGE EDGAR VINCENT, Ph.D., LL.D., President 1005 5th St. S. E.
B.A., Yale, 1885; Ph.D., Chicago, 1896; LL.D., Chicago, 1911; LL.D., Yale, 1911.
- CYRUS NORTHROP, LL.D., President, Emeritus 519 10th Ave. S. E.
B.A., Yale, 1857; LL.B., Yale, 1859; LL.D., Yale, 1886; LL.D., Wisconsin, Illinois
College, South Carolina College.
- AMOS WILSON ABBOTT, M.D., Professor of Gynecology, Emeritus
21 S. 10th St.
M.D., College of Physicians and Surgeons (Columbia), 1869.
- EVERTON JUDSON ABBOTT, B.A., M.D., Professor of Clinical Medicine,
Emeritus 425 Dayton Ave., St. Paul
B.A., Western Reserve, 1873; M.D., Western Reserve, 1875.
- HOWARD STRICKLAND ABBOTT, B.L., Lecturer on Corporation Law
900 6th St. S. E.
B.L., Minnesota, 1885.
- CEPHAS DANIEL ALLIN, LL.B., M.A., Assistant Professor of Political
Science 112 Church St. S. E.
B.A., Toronto, 1897; LL.B., Toronto, 1899; M.A., Harvard, 1900.
- FRANK MALOY ANDERSON, M.A., Professor of History
1629 University Ave. S. E.
B.A., Minnesota, 1894; M.A., Minnesota, 1896.
- CHARLES MARTIN ANDRIST, M.L., Professor of French
706 Delaware St. S. E.
B.L., Minnesota, 1894; M.L., Minnesota, 1897.
- WILLIAM REMSEN APPLEBY, M.A., Dean of the School of Mines and
Professor of Metallurgy 911 5th St. S. E.
B.A., Williams, 1886; M.A., Williams, 1893.
- LOUIS BENEDICT BALDWIN, M.D., Superintendent, University Hospitals
304 State St. S. E.
M.D., Minnesota, 1897.
- FREDERIC HERBERT BASS, B.S., Professor of Municipal and Sanitary
Engineering 429 Union St. S. E.
B.S., Massachusetts Institute of Technology, 1901.
- LOUIS BENJAMIN BASSETT, Assistant Professor of Farm Management
2095 Dudley Ave., St. Paul
- GEORGE NEANDER BAUER, Ph.D., Professor of Mathematics
1115 E. River Road
B.S., Minnesota, 1894; M.S., Iowa, 1898; Ph.D., Columbia, 1900.

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1801 University Ave. S. E.
B.A., Minnesota, 1900; M.A., Harvard, 1902; Ph.D., Harvard, 1907.
- RICHARD OLDING BEARD, M.D., Professor of Physiology and Director
of the Department of Physiology and Pharmacology
The Virginia
M.D., Northwestern, 1882.
- ELEXIOUS THOMPSON BELL, B.S., M.D., Assistant Professor of Pathology
and Bacteriology
222 Harvard St. S. E.
B.S., Missouri, 1901; M.D., Missouri, 1903.
- JOHN WARREN BELL, M.D., Professor of Clinical Medicine and Physical
Diagnosis, Emeritus
5127 Lake Harriet Blvd.
M.D., Ohio Medical College, 1876.
- HENRY ADAMS BELLOWS, Ph.D., Assistant Professor of Rhetoric
2318 Grand Ave. S.
B.A., Harvard, 1906; Ph.D., Harvard, 1910.
- CHARLES WILLIAM BENTON, Litt.D., Professor of the French Language
and Literature, Head of Department of Romance Languages
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B.A., Yale, 1874; B.D., Union Seminary, 1877; M.A., Yale, 1897; Litt.D., Western
University of Pennsylvania, 1897.
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- ANDREW BOSS, Professor of Agriculture
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- GISLE CHRISTIAN JOHNSON BOTHNE, M.A., Professor of Scandinavian
Languages and Literatures, Head of Department of Scandinavian
Languages
1105 6th St. S. E.
B.A., Luther, 1878; M.A., Luther, 1883.
- WILLIAM ELLSWORTH BROOKE, B.C.E., M.A., Professor of Mathematics
and Mechanics
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B.C.E., Nebraska, 1892; M.A., Nebraska, 1896.
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Ph.G., N. Y. College of Pharmacy, 1898; Phm.D., N. Y. College of Pharmacy,
1899; M.D., Western Reserve, 1902.
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1006 Met. Life Bldg.
B.A., Harvard, 1884.
- COATES PRESTON BULL, B.Agr., Associate Professor of Agronomy
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B.Agr., Minnesota, 1901.
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B.S., Wisconsin, 1874.
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B.E.E., Minnesota, 1892; E.E., Minnesota, 1898.

*Until June, 1912.

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Otology 930 Lowry Bldg., St. Paul
M.D., Minnesota, 1897.

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610 13th Ave. S. E.
B.A., Minnesota, 1901; M.A., Minnesota, 1904.

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B.A., Trinity, 1883; Ph.D., Johns Hopkins, 1888; L.H.D., Trinity, 1906.

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8 Melbourne Ave. S. E.
B.A., Northwestern, 1900; M.A., Harvard, 1902; Ph.D., Chicago, 1904.

FREDERIC KING BUTTERS, B.S., B.A., Assistant Professor of Botany
815 7th St. S.
B.S., Minnesota, 1899; B.A., Harvard, 1900.

*EDMUND LUTHER BUTTS, Major U. S. A., Professor of Military Science,
Head of Department of Military Science and Tactics
Hotel Plaza
West Point, 1890.

LE ROY CADY, B.S. in Agr., Associate Professor of Horticulture
2081 Buford Ave., St. Paul
B.S. in Agr., Minnesota, 1907.

AUSTIN CARY, M.A., Professor of Forestry 2219 Knapp St., St. Paul
B.A., Bowdoin, 1887; M.A., Bowdoin, 1890.

ABRAHAM BARKER CATES, M.A., M.D., Professor of Obstetrics
413 Pillsbury Bldg.
B.A., Colby College, 1874; M.A., Colby College, 1877; M.D., Harvard Medical
School, 1880.

EDWARD G. CHEYNEY, B.A., Professor of Forestry
2116 Knapp St., St. Paul
B.A., Cornell, 1900.

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208 Beacon St. S. E.
B.S., Minnesota, 1890; B.E.M., Minnesota, 1894; E.M., Minnesota, 1898.

JAMES TRENT CHRISTISON, M.D., Professor of Pediatrics
535 Lowry Bldg., St. Paul
M.D., Minnesota, 1901.

JOHN SINCLAIR CLARK, B.A., Professor of Latin Language and Litera-
ture 729 10th Ave. S. E.
B.A., Minnesota, 1876.

FREDERIC EDWARD CLEMENTS, Ph.D., Professor of Botany, Head of
Department of Botany 800 4th St. S. E.
B.Sc., Nebraska, 1894; M.A., Nebraska, 1896; Ph.D., Nebraska, 1898.

ALEXANDER R. COLVIN, M.D., Clinical Professor of Surgery
342 Lowry Bldg., St. Paul
M.D., McGill, 1894.

*Resigned June, 1912.

- *ADA LOUISE COMSTOCK, M.A., Dean of Women, Professor of Rhetoric
West Sanford Hall
B.L., Smith, 1897; M.A., Columbia, 1899.
- ELTING HOUGHTALING COMSTOCK, M.S., Professor of Mechanics and
Mathematics 1416 7th St. S. E.
B.S., Wisconsin, 1897; M.S., Minnesota, 1907.
- FRANK HENRY CONSTANT, C.E., Professor of Structural Engineering
615 6th St. S. E.
C.E., Cincinnati, 1891.
- EDWARD ALBERT COOK, B.L., Assistant Professor of Rhetoric
702 4th St. S. E.
B.L., Wisconsin, 1900.
- LOUIS JOSEPH COOKE, M.D., Medical Examiner and Director of Gym-
nasium 909 6th St. S. E.
M.D., Vermont, 1894.
- JAMES FRANK CORBETT, M.D., Associate Professor of Experimental Sur-
gery 2446 Park Ave.
M.D., Minnesota, 1896.
- WILLIAM THOMAS COX, B.S.F., State Forester, Special Lecturer in
Forestry 1540 Lincoln Ave., St. Paul
B.S.F., Minnesota, 1906.
- HARDIN CRAIG, Ph.D., Professor of English 421 Union St. S. E.
B.A., Center College, 1897; M.A., Princeton, 1899; Ph.D., Princeton, 1901.
- JOHN GROSVENOR CROSS, B.S., M.S., M.D., Clinical Professor of Medicine
910 Donaldson Bldg.
B.S., Minnesota, 1892; M.S., Northwestern, 1895; M.D., Northwestern, 1895.
- ALVIN SAYLES CUTLER, C.E., Assistant Professor of Railway Engineering
717 E. River Road
C.E., Minnesota, 1905.
- HANS H. DALAKER, B.A., Assistant Professor of Mathematics
523 Walnut St. S. E.
B.A., Minnesota, 1902.
- WILLIAM STEARNS DAVIS, Ph.D., Professor of Ancient History
806 6th St. S. E.
B.A., Harvard, 1900; M.A., Harvard, 1901; Ph.D., Harvard, 1905.
- WARREN ARTHUR DENNIS, B.L., M.D., Clinical Professor of Surgery
942 Lowry Bldg., St. Paul
B.L., Wisconsin, 1891; M.D., Minnesota, 1896.
- IRA HARRIS DERBY, Ph.D., Assistant Professor of Chemistry
2157 Commonwealth Ave., St. Paul
B.S., Harvard, 1899; Ph.D., Chicago, 1910.
- HAL DOWNEY, Ph.D., Assistant Professor of Comparative Histology
800 4th St. S. E.
B.A., Minnesota, 1903; M.A., Minnesota, 1904; Ph.D., Minnesota, 1909.

*Term of service expires September 1, 1912.

- JOHN FLORIN DOWNEY, M.A., C.E., Dean of the College of Science, Literature, and the Arts, Head of Department of Mathematics
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State Capitol, St. Paul
B.S.F., Minnesota, 1906; M.F., Yale, 1908.
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Grand Rapids, Minn.
B.A., Minnesota, 1879; M.A., Minnesota, 1881.
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329 Summit Ave., St. Paul
M.D., Harvard Medical School, 1877.
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†Died December 5, 1911.

‡Resigned June, 1912.

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B.A., Minnesota, 1905.
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B.Sc., Nebraska, 1898; Ph.D., Nebraska, 1904.
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University Farm, St. Paul
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D.D.S., Minnesota, 1911.
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210 Pleasant St. S. E.
LL.B., Minnesota, 1908; LL.M., Minnesota, 1909.
- WILLIAM HARDY FRAZIER, B.S., Instructor in Soils
937 17th Ave. S. E.
B.S., Minnesota, 1907.
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1035 13th Ave. S. E.
B.S. (Civil Engineering), Michigan, 1907.
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B.S., Cornell, 1899; Ph.D., Cornell, 1902.

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702 Donaldson Bldg.
B.A., Minnesota, 1904; M.D., Minnesota, 1907.
- WARREN THOMSON POWELL, M.A., Instructor in Rhetoric
517 Essex St. S. E.
B.A., Ohio, 1907; M.A., Ohio, 1911.
- CHARLES HERBERT PRESTON, B.A., Instructor, Extension Work in Eco-
nomics and Political Science 94 Malcolm Ave. S. E.
B.A., Wisconsin, 1906.
- GEORGE C. PRIESTER, B.E., Instructor in Mathematics
1024 15th Ave. S. E.
B.E., Iowa, 1910.
- EDWARD P. QUIGLEY, Instructor in Forge Work 2442 15th Ave. S.
- CARL LEO RAHN, Ph.B., Instructor in Psychology 119 Union St. S. E.
Ph.B., Chicago, 1907.
- CHARLES ANTHONY REED, B.S., M.D., Clinical Instructor in Orthopedic
Surgery 310 Pillsbury Bldg.
B.S., Minnesota, 1895; M.D., Minnesota, 1898.
- GEORGE WESTFALL REYNOLDS, D.D.S., Instructor in Crown and Bridge
Work 3811 10th Ave. S.
D.D.S., Minnesota, 1910.

- ERNEST THOMSON FRASER RICHARDS, M.D., Clinical Instructor in Medicine
914 Lowry Bldg.; St. Paul
M.D., McGill, 1905.
- WILLIAM HENRY RICHARDS, Instructor in Carpentry and Pattern Work
1423 W. 27th St.
- HARRY PARKS RITCHIE, Ph.B., M.D., Clinical Instructor in Surgery
914 Lowry Bldg., St. Paul
Ph.B., Yale, 1893; M.D., Minnesota, 1896.
- HARRY BURGESS ROE, B.S., Instructor in Mathematics
2105 Scudder Ave., St. Paul
B.S. in Eng., Minnesota, 1908.
- WILLIAM A. ROLL, D.D.S., Instructor in Crown and Bridge Work
321 14th Ave. S. E.
D.D.S., Minnesota, 1911.
- BERT AARON ROSE, Instructor of Cadet Band
710 7th St. S. E.
- FRANK BENJAMIN ROWLEY, M.E., Instructor in Drawing and Descriptive Geometry
414 Oak St. S. E.
B.S., Wisconsin, 1905; M.E., Wisconsin, 1906.
- CHARLES EUGENE RUDOLPH, D.D.S., Instructor in Prosthetic Dentistry
2337 Central Ave. N. E.
D.D.S., Minnesota, 1911.
- JAMES COX SANDERSON, Ph.D., Instructor in Physics
710 13th Ave. S. E.
B.A., Yale, 1907; Ph.D., Yale, 1911.
- JULIUS HENRY SANTO, E.M., Instructor in Mechanics and Mathematics
1406 7th St. S. E.
E.M., Minnesota, 1909.
- FREDERIC WILLIAM SCHLUTZ, B.A., M.D., Clinical Instructor in Pediatrics and Research Associate in Physiologic Chemistry
802 Donaldson Bldg.
B.A., Wartburg College, 1898; M.D., Maryland, 1902.
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800 5th St. S. E.
B.A., Northwestern College, 1902.
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1105 6th St. S. E.
B.A., Wittenberg College, 1896; B.A., Michigan, 1903; M.A., Michigan, 1907.
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1385 Raymond Ave., St. Paul
B.A., Oskaloosa College, 1881; M.A., Drake, 1884.
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517 Essex St. S. E.
B.L., Michigan; M.A., Michigan.
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2541 Harriet Ave.
B.A., Clark College, 1905; Ph.D., Clark University, 1908.
- ANNA MARY SMITH, Librarian, College of Agriculture, Instructor in Library Methods
1485 Cleveland Ave., St. Paul

- EDGAR KIRKE SOPER, B.A., Instructor in Geology 417 Union St. S. E.
B.A., Leland Stanford, 1908.
- CHARLES NELSON SPRATT, B.S., M.D., Clinical Instructor in Ophthalmology and Otology 900 Nicollet Ave.
B.S., Minnesota, 1897; M.D., Johns Hopkins, 1901.
- ELVIN CHARLES STAKMAN, M.A., Instructor in Vegetable Pathology 1485 Cleveland Ave., St. Paul
B.A., Minnesota, 1906; M.A., Minnesota, 1910.
- WOLDEMAR MARXOWITCH STERNBERG, B.S. in Chem. Eng., Instructor in Chemistry 2109 Lyndale Ave. S.
B.S. in Chem. Eng., Institute of Technology, St. Petersburg, Russia, 1907.
- ARTHUR CLARENCE STRACHAUER, M.D., Clinical Instructor in Surgery 616 Syndicate Bldg.
M.D., Minnesota, 1908.
- EUGENE SILAS STROUT, M.D., Clinical Instructor in Ophthalmology and Otology 910 Donaldson Bldg.
M.D., Michigan, 1891.
- THOMAS W. STUMM, M.D., Clinical Instructor in Medicine 744 Lowry Bldg., St. Paul
M.D., Rush Medical College, 1901.
- SAMUEL EDWARD SWEITZER, M.D., Clinical Instructor in Dermatology and Genito-Urinary Diseases 1517 Stevens Ave.
M.D., Minnesota, 1901.
- HENRY JOHN UBRICH, Instructor in Carpentry 602 Buchanan St. N. E.
- HENRY LUDWIG ULRICH, B.S., M.D., Instructor in Clinical Medicine 310 Pillsbury Bldg.
B.S., Rutgers, 1897; M.D., Johns Hopkins, 1901.
- ANDREW JOSEPH WEISS, Instructor in Technics 3708 Stevens Ave.
- HENRY JOURNEYAY WELLES, M.D., Clinical Instructor in Ophthalmology and Otology 306 Masonic Temple
M.D., Minnesota, 1901.
- RODNEY MOTT WEST, B.A., Instructor in Agricultural Chemistry 2128 Knapp St., St. Paul
B.A., Minnesota, 1906.
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B.S. in Agr., Minnesota, 1911.
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B.S. in Agr., Minnesota, 1908.
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B.A., Minnesota, 1900; M.A., Minnesota, 1909.
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E.M., Minnesota, 1911.

- CHARLES ALBERT WIETHOFF, D.D.S., Instructor in Crown and Bridge
Work 806 42nd Ave. N.
D.D.S., Minnesota, 1909.
- ARCHA EDWARD WILCOX, M.D., Clinical Instructor in Surgery
204 Donaldson Bldg.
M.D., Pennsylvania, 1899.
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2089 Carter Ave., St. Paul
D.V.M., Iowa State College, 1911.
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504 Beacon St. S. E.
B.A., Wartburg College, 1901; M.A., Iowa, 1908.
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atrics 636 Syndicate Bldg.
B.A., North Dakota, 1898; M.D., Johns Hopkins, 1902.
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307 Donaldson Bldg.
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715 University Ave. S. E.
B.A., Minnesota, 1909; M.A., Minnesota, 1910.
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2366 Ellis St., St. Paul
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Diseases 409 Lowry Bldg., St. Paul
M.D., Minnesota, 1901.
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B.A., Luther College, 1901; M.D., Minnesota, 1906.
- WILLIAM HENRY AURAND, M.D., Clinical Assistant in Medicine
425 Oak St. S. E.
M.D., Minnesota, 1901.
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320 17th Ave. S. E.
B.S. in H.E., Minnesota, 1911.
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503 Donaldson Bldg.
M.D., Minnesota, 1909.
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334 Lowry Bldg. St. Paul
M.D., C.M., McGill, 1900.
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2130 Carter Ave., St. Paul
B.S., Michigan Agricultural College, 1905.

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2413 Bayless Ave., St. Paul
B.A., Minnesota, 1911.
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1525 E. Franklin Ave.
B.A., Augsburg, 1904; M.D., Minnesota, 1909.
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69 N. Milton St., St. Paul
B.A., Minnesota, 1903; M.D., Minnesota, 1906.
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B.S., Wesleyan (Conn.), 1903; M.D., Johns Hopkins, 1907.
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B.A., Minnesota, 1911; M.A., Minnesota, 1912.
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B.A., Leland Stanford, 1899; M.D., Minnesota, 1908.
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3733 Nicollet Ave.
B.A., Minnesota, 1902; M.D., Minnesota, 1905.
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1728 4th St. S. E.
B.A., Minnesota, 1909; M.A., Minnesota, 1912.
- OLIVER R. BRYANT, M.D., Clinical Assistant in Medicine
802 E. Lake St.
M.D., Minnesota, 1905.
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410 17th Ave. S. E.
B.A., Minnesota, 1911; M.A. Minnesota, 1912.
- JOHN BUTLER, M.D., Clinical Assistant in Dermatology
403 Pillsbury Bldg.
M.D., Minnesota, 1903.
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2102 2nd Ave. S.
M.D., Minnesota, 1906.
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700 15th Ave. S. E.
B.S. in Eng., Minnesota, 1912.
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610 4th St. N. E.
B.A., Petit Seminaire de Montreal, 1907; Ph.B., St. Paul Seminary, 1909.
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1800 4th St. S. E.
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1429 6th St. S. E.

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1891 Dayton Ave., St. Paul
B.A., Mount Holyoke, 1908.
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907 7th St. S. E.
B.S., Columbia, 1911.
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1319 7th St. S. E.
M.E., Minnesota, 1910.
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and Venereal Diseases 642 Lowry Bldg., St. Paul
M.D., Minnesota, 1904.
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412 Reid Corner
B.S., Minnesota, 1896; M.D., Minnesota, 1902.
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Science 1108 4th St. S. E.
B.A., Minnesota, 1912.
- GLENNE W. GOLDSMITH, B.A., Scholar in Botany 410 Harvard St. S. E.
B.A., Minnesota, 1911.
- EDWARD VINCENT GOLTZ, M.D., Clinical Assistant in Rhinology and
Laryngology 394 Selby Ave., St. Paul
M.D., Northwestern, 1908.
- EUGENE KIBBEY GREEN, B.A., M.D., Associate in Anatomy
307 Reid Corner
B.A., Minnesota, 1895; M.D., Minnesota, 1903.
- WILLIAM FARNSWORTH HAGERMAN, B.S. in Agr., Assistant in Animal
Husbandry 2089 Carter Ave., St. Paul
B.S. in Agr., Minnesota, 1912.
- JAMES FELTON HAMMOND, M.D., C.M., Clinical Assistant in Pediatrics
334 Lowry Bldg., St. Paul
M.D., C.M., McGill, 1906.
- HAROLD HANSEN, Assistant in Biology 3447 Aldrich Ave. S.
- GEORGE LEAVITT HARRINGTON, E.M., Scholar in Geology and Mineralogy
626 11th Ave. S. E.
E.M., Minnesota, 1912.
- ELIZABETH HAUSE, B.A., Assistant in English
2174 Commonwealth Ave., St. Paul
B.A., Michigan.
- MANLEY HEWITT HAYNES, Phm.B., Assistant in Pharmacognosy
703 E. River Road
Phm.B., Minnesota, 1911.
- RUTH ELIZABETH HERMANN, M.A., Scholar in Biology
2640 2nd Ave. S.
B.A. in Educ., Minnesota, 1911; M.A., Minnesota, 1912.

- EDGAR JOHN HUENEKENS, B.A., M.D., Clinical Assistant in Medicine
1037 Andrus Bldg.
B.A., Marquette College, 1904; M.D., St. Louis, 1908.
- DE FOREST HUNGERFORD, B.S., Assistant in Agricultural Chemistry and
Soils University Farm, St. Paul
B.S., Kansas State Agricultural College, 1910.
- HARRY GARFIELD IRVINE, M.D., Clinical Assistant in Dermatology
601 Syndicate Bldg.
M.D., Minnesota, 1903.
- LOUISE E. JENSEN, M.A., Scholar in Botany 2401 Chicago Ave.
B.A., Minnesota, 1909; M.A., Smith, 1910.
- E. MENDELSSOHN JONES, M.D., Clinical Assistant in Surgery
541 Lowry Bldg., St. Paul
M.D., Minnesota, 1907.
- PAUL E. KLOPSTEG, B.S., Assistant in Physics 410 17th Ave. S. E.
B.S., Minnesota, 1911.
- GEORGE F. KROGH, Assistant in Mechanics 1502 Hythe St., St. Paul
- GURID LAATE, B.S. in H.E., Assistant in Domestic Science
1472 Raymond Ave., St. Paul
B.S. in H.E., Minnesota, 1910.
- ANTOINE A. LAURENT, M.D., Clinical Assistant in Diseases of Children
203 Donaldson Bldg.
M.D., Hamline, 1911.
- RAE THORNTON LA VAKE, B.A., M.D., Temporary Assistant in Pediatrics
203 Donaldson Bldg.
B.A., Yale, 1905; M.D., Columbia, 1909.
- HENRY O. LEE, Clerk, Students' Work Committee
1625 University Ave. S. E.
- JARL FERDINAND LEMSTROM, B.S., M.D., Clinical Assistant in Medicine
2117 4th Ave. N.
B.S., University of Helsingfors, Finland, 1903; M.D., University of Minnesota,
1907.
- ELTA LENART, M.A., Scholar in Rhetoric 420 13th Ave. S. E.
B.A., Minnesota, 1910; M.A., Minnesota, 1912.
- ADOLPH EDWARD LOBERG, M.D., Clinical Assistant in Nervous and
Mental Diseases 221 Cedar Ave.
M.D., Minnesota, 1901.
- HYME LOSSE, B.A., Assistant in French 613 N. 4th St.
B.A., Minnesota, 1910.
- HENRY LYSNE, B.S., M.D., Clinical Assistant in Medicine
700 20th Ave. N.
B.S., St. Olaf, 1906; M.D., Minnesota, 1910.
- DAVIDA MCCASLIN, M.A., Scholar in Rhetoric
2024 Selby Ave., St. Paul
B.A., Coe College, 1904; B.S., James Milliken, 1907; M.A., Minnesota, 1912.
- LOLA MCCLURE, Assistant in Domestic Science
2116 Carter Ave., St. Paul

- OLIVE BRIGGS MACCOMBER, Assistant in Domestic Art
1393 Cleveland Ave., St. Paul
- MAY CECILIA McDONALD, B.S. in H.E., Assistant in Domestic Science
5049 N. Lyndale Ave.
B.S. in H.E., Minnesota, 1907.
- WILLIAM ALLISON McMANIGAL, B.A., LL.B., Scholar in Sociology and
Anthropology 822 Marshall Ave., St. Paul
B.A., Minnesota, 1904; LL.B., Minnesota, 1906.
- SOLVEIG MAGDALENE MAGELSSSEN, B.A., Scholar in Rhetoric
500 Essex St. S. E.
B.A., Minnesota, 1912.
- CHARLES ALBERT MANEY, Scholar in Astronomy 2409 27th Ave. S.
- CHARLES H. MATTHEWS, Assistant in Poultry Husbandry
1485 Cleveland Ave., St. Paul
- ALICE MARGARET MERSEN, B.A., Assistant in Agricultural Chemistry
2111 Commonwealth Ave., St. Paul
B.A., Minnesota, 1904.
- EDWARD MOREN, M.D., Clinical Assistant in Medicine
307 Donaldson Bldg.
M.D., Minnesota, 1906.
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914 Lowry Bldg., St. Paul
B.A., Minnesota, 1905; M.D., Chicago, 1908.
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Science 1175 Churchill Ave., St. Paul
B.A., Minnesota, 1911.
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Urinary Diseases 2901 Washington Ave. N.
B.A., Augsburg, 1902; M.D., Minnesota, 1906.
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915 E. River Road
M.D., Minnesota, 1906.
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Otology 328 Central Ave.
M.D., Michigan, 1901.
- RICHARD JOSEPH PURCELL, M.A., Scholar in History
426 14th Ave. S. E.
B.A., Minnesota, 1910; M.A., Minnesota, 1912.
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B.A., Minnesota, 1912.
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2095 Commonwealth Ave., St. Paul
B.S. in H.E., Minnesota, 1911.
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937 Lowry Bldg., St. Paul
B.A., Harvard, 1897; M.D., Harvard, 1901.

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59 Lyndale Ave. N.
M.D., Minnesota, 1907.
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2602 N. Thomas Ave.
B.A., Minnesota, 1911.
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1609 University Ave. S. E.
B.A., Minnesota, 1911; M.A., Minnesota, 1912.
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1028 Andrus Bldg.
M.D., Hamline, 1904.
- IDA MARTHA SLETTA, Assistant in Domestic Science
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321 14th Ave. S. E.
B.A., Minnesota, 1909; M.A., Yale, 1910.
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4920 39th Ave. S.
B.A., Minnesota, 1909; M.A., Minnesota, 1910.
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1465 Raymond Ave., St. Paul
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3101 16th Ave. S.
B.A., Minnesota, 1911.
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B.A., Minnesota, 1911.
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325 Cedar Ave.
B.S., Valparaiso, 1898; M.D., Minnesota, 1903.
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3408 Chicago Ave.
B.A., Illinois, 1896; M.D., Rush Medical College, 1900.
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1700 4th St. S. E.
B.A., Minnesota, 1911; M.A., Minnesota, 1912.
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1700 N. Dupont Ave.
B.A., Minnesota, 1910.
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3128 Bloomington Ave.
M.D., Minnesota, 1906.

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1631 Wesley Ave., St. Paul
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414 17th Ave. S. E.
B.A., German Wallace College, 1907.

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HISTORICAL SKETCH

When Minnesota was organized as a territory March 3, 1849, it was understood that a grant of public lands would be made by Congress for the endowment and support of a university as in the case of all other states carved out of this old northwest territory.

On December 10, 1850, Delegate Sibley gave notice of a bill to grant two townships (46,080 acres) which became law on February 19, 1851. Meantime the Minnesota Legislature had by Act, February 13, created the University of Minnesota and made over to that corporation the proceeds of all lands which Congress might grant.

The location of the institution was fixed by this law "at or near the Falls of St. Anthony," by virtue of an understanding relating to the distribution of public buildings. A board of twelve regents elected in classes by the legislature had charge till 1860. In the fall of 1851, a preparatory school was opened. In 1856, intoxicated by the boom which was then raging, the Regents began the erection of the rear part of the "Old Main" Building. Before it was finished, the panic of 1857 came on. The board could not pay the contractors nor meet the interest on the bonds they had been authorized to sell.

In the winter of 1860 the Legislature replaced the old board of twelve regents by one of five appointed by the Governor. At the end of four years this board had not been able to put the finances of the University on a sound footing. Senator John S. Pillsbury laid before the Legislature of 1864 a plan to pay off the accumulated debt by the sale of less than one-third of the land grant. A special board of three regents, headed by Mr. Pillsbury, was created to make the experiment. At the close of 1866 this board reported the debt substantially liquidated. A debt of gratitude is due to the creditors and bondholders for scaling down their just claims and accepting sums far below their dues. By means of a small appropriation the special board renovated the building, purchased furniture and appliances, and in November, 1867, opened the preparatory department, to which girls as well as boys were admitted.

This board having accomplished its purpose prepared for the Legislature the bill which, enacted into law February 13, 1868, became the actual charter of the University. By far the most important element was that which united with the university endowment proper the expected income from the congressional land grant of 1862 for the support of colleges of Agricultural and Mechanic Arts.

At the close of the college year of 1869 a small company of preparatory students were found ready for college instruction. A faculty of nine professors and instructors was elected and began their work in September. In this year William Watts Folwell was appointed president.

In 1873 two students were graduated at the first commencement. Some twenty years now passed in quiet work and growth, mostly in the Academic department. A good beginning was made in that of En-

gineering and Mechanic Arts, but in spite of the most earnest endeavors by the Regents the College of Agriculture developed slowly. There was little demand for proper agricultural instruction and the pedagogy of that branch had not been developed.

In the year 1870 Congress confirmed to the State a second grant of public land for a state University ingeniously embodied in the enabling act of February 26, 1857, which the departmental authorities at Washington had persistently refused to recognize.

In September, 1884, Cyrus Northrop succeeded to the presidency and not long after began that great development familiar to all.

The Colleges of Law and Medicine were organized. New buildings sprang up, nobly equipped, and the faculties were reinforced as means accumulated. The growth of the College of Agriculture has been remarkable. The congressional appropriations for experiment stations and additional endowment have greatly increased its efficiency and prosperity. The College of Engineering has also enjoyed a rapid and cumulative development. The Colleges of Pharmacy, Dentistry, the School of Mines, Chemistry, Education, and the Graduate School have been added in recent years, the result of public demands for special technical training and research.

President Northrop resigned in 1910, and, on April 1, 1911, George Edgar Vincent, Ph.D., LL.D., Dean of the Faculties of Arts, Literature, and Science, of the University of Chicago, succeeded to the presidency of the University.

MILITARY DRILL

The Act of Congress of 1862, providing for the establishment of "Land Grant Colleges," requires that instruction be given in Military Science and Tactics at all institutions that are its beneficiaries. At any such institution where a Professor of Military Science and Tactics is detailed, War Department Orders of 1905 require that it shall be provided in its regular schedule of studies that at least three hours per week for two years or the equivalent thereof shall be assigned for instruction in the Military Department.

The United States government supplies the University with the necessary arms, equipment, and ammunition for instruction in infantry and artillery drill, and details a commissioned officer of the Regular Army to take charge of the department.

All male students in the Colleges of Science, Literature, and the Arts, Engineering, Agriculture, and Chemistry, are required to provide themselves with prescribed uniform and take military training during the first two years of their course. The uniform may be secured at an approximate cost of sixteen dollars.

An encampment of cadets is held at the beginning of each year. Sophomore cadets attending the encampment are excused from all Military Drill of the first semester except on Saturdays. Students due but not reporting for encampment are required to report for all military

exercises during the semester and, unless excused for satisfactory reasons, will be required to report at the next encampment.

THE ONE-MILE LIQUOR LAW

A state law provides that "it shall be unlawful for any person to sell or dispose of any spirituous, vinous, or malt liquors within the distance of one mile of the Main Building of the University of Minnesota, as now located in the city of Minneapolis provided that the provision of this section shall not apply to that part of the city of Minneapolis lying on the west side of the Mississippi River."

DESCRIPTION OF DEPARTMENTS

The College of Science, Literature, and the Arts offers a four-year course of study leading to the degree of Bachelor of Arts. The work of the first two years is elective within certain limitations as to the range of subjects from which the electives may be chosen. The remaining work of the course is entirely elective, with the provision that a certain number of long courses be selected. The course is so elastic that it permits the student to make the general scope of his course classical, scientific, or literary, to suit his individual purpose.

In this college are given also the two years of college work required for entrance to the College of Medicine and Surgery; the first two years of work of the seven-year course in Science and Medicine, leading to the degrees of Bachelor of Science and Doctor of Medicine; the two years of college work required for entrance to the Law School; and various non-professional subjects required in other schools and colleges of the University.

The College of Engineering and the Mechanic Arts offers courses of study, of five years each, in Civil, Mechanical, and Electrical Engineering, and Architecture, leading to the degrees Civil Engineer, Electrical Engineer, Mechanical Engineer, or Architect at the end of five years. On the completion of the fourth year the degree of Bachelor of Science in Engineering or in Architecture is conferred.

The course in Architecture offers work only in the freshman class for the college year 1912-13. Mr. Edwin H. Hewitt, Architect, of Minneapolis, has been appointed Lecturer in Architecture.

In the course in Civil Engineering, a period of five weeks is spent in camp in the months of June and July. This summer survey work is required of all students in this course in the vacation following the junior year.

The College of Agriculture offers four-year courses in Agriculture and Home Economics. The Degree of Bachelor of Science is conferred upon completion of these courses. The courses in Agriculture offer work along both general and special lines. Opportunities are offered to all students in the Agricultural and Home Economics courses to elect educational subjects leading to Teachers' University Certificates in preparation for teaching in Secondary Schools.

Graduate work is offered in all special lines of Agriculture. The graduate work is for the most part correlated with work in the Experiment Station.

A summer session (Summer School of Agriculture) of six weeks offers chiefly general courses in Agriculture and Home Economics, especially designed for teachers who are unable to attend the regular college session. This is held in June and July in connection with the State Teachers' Training School.

The College of Forestry offers a four-year course leading to the degree of Bachelor of Science. In addition to the work given at the University Farm four months' work is given at Itasca State Park where a well-equipped demonstration forest is available as a laboratory. The College also controls a Forest Experiment Station at Cloquet, which offers a good field for graduate students and original research. Provision is made for graduate work in all the various lines of silviculture and utilization.

The Schools of Agriculture offer three-year courses of study adapted especially to the needs and opportunities of farm boys and girls. They offer courses of special training for practical farm life and for practical home economics. The Central School is located at St. Anthony Park; The Northwest School, at Crookston; and the West Central School, at Morris.

The Dairy School offers a four weeks' course of practical instruction in dairying, especially designed for those who are actually engaged in the manufacture of butter and cheese. (November and December.)

A Short Course for Farmers is a four weeks' course of practical work adapted entirely to the needs of those actually engaged in farming and in the management of the farm home. (January and February.)

The School of Traction Engineering is a four weeks' course of practical instruction in the operation and handling of traction engines and other farm machinery. Engineer licenses of different grades are given according to previous experience. (May.)

The Experiment Station conducts experiments along the various lines of Agriculture which are of interest to farmers. It is closely correlated with the College of Agriculture. Its object is the solution of agricultural problems of importance in Minnesota. It offers secondarily educational and research advantages to undergraduate and graduate students of the College of Agriculture. The main Station is located at St. Anthony Park; sub-stations are located at Crookston, Grand Rapids, and Morris. Demonstration experimental farms are also located at Waseca and Duluth.

The Extension Work of the Department of Agriculture is correlated with the Farmers' Institute work and aims to bring to the farmers of the State information leading to the improvement of the farm and home. It reaches farmers by institutes, lectures, demonstration and demonstration farms, industrial and agricultural contests, a press bureau, and by correspondence and personal visits.

The Law School, established in 1888, offers a course covering a period of three academic years, leading to the degree of Bachelor of Laws. Candidates for admission to the Law School must have completed at least two years of work in the College of Science, Literature, and the Arts of the University of Minnesota, or some other college or university of equal grade. A special pre-legal course of two years, covering those subjects which are particularly desirable as a preliminary to the study of law, is offered by the Academic college of the University of Minnesota. Seniors in the Academic college are permitted to take the work of the first-year

class in law and count the same as the equivalent of one year's work towards their Academic degree. This provision enables students to obtain the degrees of Bachelor of Arts and Bachelor of Laws in six years.

The object of the Law School is to provide a thorough and scientific legal education, and to prepare students for the actual practice of law in any jurisdiction where the English and American legal system prevails. Particular emphasis is laid upon the Minnesota Statutes, the special doctrines of law, and the rules of practice that obtain in this State.

In teaching the various branches of the substantive law, and, whenever practicable, the adjective law as well, the so-called "case system" is employed. This method of teaching law, which has been approved by experience and which is now employed in the leading law schools of the country, has the two-fold merit of enabling the student to acquire a thorough and practical knowledge of legal principles, and to become familiar with those processes of legal reasoning which have determined the form and character of our jurisprudence, and will govern its future development.

The Faculty is composed primarily of resident professional law teachers who devote their entire time and energy to teaching. The courses in practice are, however, taught by men who are in active practice at the Minnesota bar.

The College of Medicine and Surgery was organized as a teaching school in 1888, the University Medical Department having been first established in 1883 to examine students and confer degrees.

Medical education has been unified in the State of Minnesota by the absorption of all of the private medical colleges; the Hamline University Medical Department having been merged into that of the University of Minnesota in 1908; and the College of Homeopathic Medicine and Surgery having been discontinued in 1909.

The requirements for entrance are a four-year high school course, including two years of Latin; and two years of college work equivalent to that of the College of Science, Literature, and the Arts, of this University, and including at least one year each of physics, inorganic chemistry, qualitative analysis, and biology; and sufficient German or French to ensure a reading knowledge.

The course in medicine includes four years of thirty-six weeks of laboratory, didactic, and clinical work and a fifth year spent in clinical work in an approved hospital or in advanced laboratory studies in this college.

All students entering in September, 1912, or later, will be required to secure the B.S. or B.A. degree before receiving the M.D. degree.

The college occupies five modern buildings on the University Campus, including two new laboratory buildings completed in June, 1912.

The University Hospitals include the Elliot Memorial Building, occupied in September, 1911, the out-patient department, the hospital for infectious diseases, and several temporary buildings which provide for the hospital service, the School for Nurses, and nurses' homes. The University also controls the St. Paul Dispensary.

The Hospitals and Dispensaries of the Twin Cities, serving a population approximating 550,000, also provide clinical teaching for the College of Medicine and Surgery.

The college offers the following courses of study:

1. Course leading to the degrees of Bachelor of Science and Doctor of Medicine. Five years in the College of Medicine and Surgery, viz., four years of graded study and one year in a hospital internship or in advanced laboratory studies or research. Open to those presenting the preliminary requirements stated above.

2. Courses leading to the degrees of Bachelor of Arts and Doctor of Medicine. Students presenting three years of work in the College of Science, Literature, and the Arts, including the required subjects mentioned, which leads up to the degree of Bachelor of Arts, may elect the first year in medicine in their senior academic year, receiving the B.A. degree at its close, and the M.D. degree upon the successful completion of the remaining four years in medicine.

Similar affiliations exist with certain other colleges, whereby the B.A. degree may be conferred by these colleges under the same conditions.

3. The University School for Nurses, organized in connection with the University Hospital service, is under the control of the Faculty of the College of Medicine and Surgery. (See School Bulletin.)

4. Graduate and research work is offered to qualified students.

The College of Dentistry offers a three-year course of study, of nine months each. Upon completion of the prescribed course the degree of Doctor of Dental Surgery is conferred.

The University now offers an optional six-year course of study. The first three years of the course are given in the College of Science, Literature, and the Arts. The last three years are given in the College of Dentistry. It leads to the degree of Bachelor of Arts at the end of the first four years and to the degree of Doctor of Dental Surgery at the end of the six-year course.

The College of Pharmacy was organized in 1891 upon request of the Minnesota State Pharmaceutical Association. In the organization and conduct of the college, the Board of Regents and the Faculty have had and have the co-operation of the pharmacists of the Northwest. The college is of University grade and maintains a high standard of entrance and graduation requirements. Every effort is made to comply with the demands of the pharmaceutical profession of the Northwest and elsewhere. The college offers a regular course extending over two or three years leading to the degree Bachelor of Pharmacy, and two postgraduate courses, the first requiring at least one additional year of resident work and leading to the degree Master of Pharmacy, and the second requiring one or two additional years of work and leading to the degree Doctor of Pharmacy. It is now contemplated to add a four-year course to include somewhat more than is now included in the regular two-year course and about two years of academic work. This course will lead to the degree Bachelor of Science in Pharmacy, and will in all respects be at least the equal of similar courses given in other university colleges of pharmacy.

The course will begin as soon as the College will be provided with larger quarters. The Board of Regents have also authorized a course somewhat lower than the regular course now given, to comply, however, with the requirements of the American Conference of Pharmaceutical Faculties. It is not certain at this time that this course will be organized.

The School of Mines was established in 1889. Its buildings and laboratories are located on the grounds of the University of Minnesota. Students of the School of Mines have, therefore, all the opportunities afforded by a large university. Three regular courses are offered, namely, Mining Engineering, Mining Engineering (specializing in Geology), and Metallurgy, leading to the degrees of Engineer of Mines (E.M.), Engineer of Mines (in Geology) [E.M. (Geology)], and Metallurgical Engineer (Met. E.), respectively.

Students passing satisfactory entrance examinations in Elementary and Higher Algebra, and Plane and Solid Geometry may graduate in four years. Students presenting high school credentials to the extent indicated on page 65, may graduate in five years.

Courses in the school are designed for the purpose of preparing men to enter their profession with a thorough grounding in mathematics, in the sciences, and in the fundamental principles of mining engineering and metallurgy. The technical courses consist of lecture work in mining, metallurgy, and allied subjects, supplemented by laboratory work in assaying, chemistry, ore dressing, and metallurgy; field work in plane and under-ground surveying; actual practical mining and metallurgical work in Minnesota and Western mining centers. A system of apprenticeship during summer vacations has been inaugurated. This work has become part of the curriculum and is required of all students who are candidates for degrees.

Minnesota's enormous iron ore production continually brings before the public the necessity for trained men to aid in the development of the country's mineral resources. The State has developed its School of Mines with this end in view.

The College of Education offers a practical and a theoretical training for prospective high school teachers and principals, for principals of elementary schools, for supervisors of special studies, and for superintendents of school systems.

Students are admitted to the college only after the completion of at least two full years of college work, during which time they should have pursued at least one course in general psychology, and prospective high school teachers should have given especial attention to one or more of the subjects which they expect to teach. The two years' course of study, beginning with the junior year, leads to the degree of Bachelor of Arts in Education. Preparation for teaching is planned to include a thorough grounding in the correct use of English, and adequate training in general and in educational psychology, in the history and organization of schools, in educational theory, and in the practice of teaching; and also, quite aside from the liberal training of the regular college course, specific preparation in both the subject matter and the methods of those subjects in

the secondary curriculum which each candidate proposes to teach. A third year leads to the degree of Master of Arts, including advanced studies in education and philosophy, and in one or more of the subjects of the secondary curriculum, at the option of the candidate.

In addition to the ordinary academic and professional studies connected with the training of the teacher, the college offers an opportunity for observation and practice teaching under supervision, as well as special facilities in voice culture, public school music, and physical culture, together with elementary and advanced courses in drawing, domestic art, and domestic science, manual training, and business education—those specialized forms of the secondary curriculum which are being introduced so rapidly into the public high schools of Minnesota.

The School of Analytical and Applied Chemistry offers three courses. Two of these, the Analytical and the five-year course in Arts and Chemistry, are designed for those who wish to become teachers of chemistry, analysts, and investigators. The four-year Analytical course leads to the degree of Bachelor of Science in Chemistry, while the five-year course leads to the degree of Bachelor of Arts after four years and Bachelor of Science in Chemistry at the end of the fifth.

The third or Applied course extends over five years, leading to the degree of Bachelor of Science at the end of four years and Chemical Engineer at the end of the fifth. These courses aim to give the student a broad foundation in chemistry and some of the allied sciences.

The two buildings occupied by the school contain six large laboratories and about twenty smaller ones well equipped for carrying on a wide range of work.

The Graduate School gathers into a single organization and unites for the purpose of administration all the activities of the University in all its schools and colleges in so far as they relate to advanced instruction offered for the second or higher degrees, viz., Master of Arts and Doctor of Philosophy conferred for advanced, non-technical study; Master of Science and Doctor of Science for technical study. The privileges of this school are in general open to all who have received bachelor's degrees from reputable colleges and universities, based on courses substantially equivalent to those at this University.

The University Summer Session is organized for six weeks in June and July under the authority of the Board of Regents as a regular part of the University, replacing the summer school formerly held under the State Department of Public Instruction. Courses carrying University credit, amounting in all to more than twice the number required for the bachelor's degree and including all the subjects of the state professional certificate, are offered for college students, experienced teachers, and others who desire the advantage of advanced study. Students may secure not more than six credits at one session.

The work heretofore given for rural and graded school teachers in the elementary section of the summer school is now conducted by the State Department of Public Instruction as a State Training School for Teachers at the University Farm, St. Paul.

Special Courses.—In practically all of the colleges, students of mature age and adequate preparation are permitted to pursue, under the direction of the Faculty, one or two distinct lines of study.

Extension Courses.—The Legislature of 1909 made an appropriation for the biennial period providing for University Extension work, and the Legislature of 1911 has continued it.

The Department of Economics and Political Science, for this period, gives a number of courses in the evening at the University for business men living in the vicinity of the University, and a somewhat similar group of courses by correspondence throughout the State. The Department also offers a series of University Extension lectures in the field of Economics and Political Science at points anywhere in the State. A separate bulletin explaining each of these three kinds of work may be had upon application.

University extension work is conducted by the College of Education in the form (a) of local lectures in series of three to six, where committees are formed for this purpose in various communities; (b) of correspondence courses especially arranged for teachers in the subjects required for the state professional certificate; and (c) of institute lectures for teachers in connection with the various district, county, and local educational associations. A considerable part of the work required for a bachelor's degree may be completed by correspondence.

EQUIPMENT

GROUNDS AND BUILDINGS

The twenty-eight buildings of the University used by all departments of instruction save that of Agriculture, are located upon the University campus, a tract, including the new campus, of about one hundred twenty-three acres lying between University Avenue and the river and between Eleventh and Nineteenth Avenues Southeast, in the city of Minneapolis. The campus is well wooded, having a fine grove of native oaks and commands a beautiful view of St. Anthony Falls and the city, but is sufficiently removed from the business center to insure desirable quiet and retirement. The new campus area to the south of the Northern Pacific Railway is now occupied by the new buildings of the College of Engineering, and Medicine built in accordance with the Cass Gilbert Plans.

The Department of Agriculture and the State Experiment Station are situated at St. Anthony Park, two and one-half miles directly east of the University, on the University Farm, which comprises about four hundred twenty acres. The Department has a very fine campus which commands excellent views of Minneapolis and St. Paul, besides a vast sweep of country to the south, extending beyond the Mississippi. The twenty-seven buildings provided for this Department are located upon this Campus.

ASTRONOMICAL OBSERVATORY

The Astronomical Observatory contains a ten and one-half inch refracting telescope furnished with a third lens for converting it into a photographic telescope; a filar micrometer; a spectroscope by Brashear; a meridian circle and zenith telescope; a Repsold photographic measuring machine; a chronograph, and astronomical clocks.

GYMNASIUM

The gymnasium is located in the Armory, and is well equipped with a variety of gymnastic appliances to which has recently been added a swimming pool. The object of the gymnasium is to provide all of the students of the University opportunity for exercise to build up their general health. It also provides special training to correct physical defects and functional derangements. The gymnasium is in charge of a professional medical director and assistant, and the training is under their direct supervision. A thorough physical examination is offered each student immediately before and after the gymnasium course, and a record is made of the same. The examination of these records shows a marked improvement in the standard of health of the average student during his

college course. The gymnasium is open at all times to students of the University, who are free to use the apparatus and to pursue a course of physical training under the direct supervision of the director and his assistant. In some of the colleges of the University physical training is required of all students.

MUSEUMS AND COLLECTIONS

The museums of the University contain material obtained from various sources, arranged with special reference to its use for illustration. Among the more notable collections are the following:

Geology and Mineralogy.—This museum includes the Kunz collection of minerals, purchased of George F. Kunz; several suits of crystalline rocks secured from various sources; the Ward collection of casts contributed in part by citizens of Minneapolis; collection of rocks, fossils, minerals, and economic products of Minnesota; upwards of 9,000 entries gathered by the Geological Survey of the State; the Sardeson collection of paleozoic fossils of Minnesota, Wisconsin, Iowa, and neighboring states, comprising 30,000 specimens; a series of 3,000 thin sections of typical rocks and minerals largely representing Minnesota localities; purchased material comprising a fine collection of crystals; 5,000 minerals and 3,000 specimens of economic minerals and crystalline rocks, and a collection of over 4,000 photographs and lantern slides.

Mr. Arus S. Williams, of Minneapolis, has given to the University his extensive collection of negatives and photographs. During many years of active work as a photographer, he has collected a series of several thousand plates representing geologic and geographic subjects, commercial views, and historic scenes. These will prove of great value in illustrating the physical, commercial, and political history of the State. They are recognized as the A. S. Williams' Collection of Photographs and Photographic Negatives.

Zoology.—The zoological museum contains all the material collected by the Zoological Survey; a collection of mounted Minnesota birds representing about one-third of the species found in the State; a number of the mammals of the State and a few from the more western states; a collection of fishes, molluscan shells, Philippine Island corals, and other foreign material.

The museum material includes a beautiful group of Woodland Caribou recently presented by James Ford Bell, the Roberts and Benner collection of skins, nests, and eggs of birds of Minnesota; the Oestlund collection of insects rich in Aphidæ; the Guthrie collection of Collembola; the Menage collection of Philippine Island corals; the Survey collections, and a considerable amount of good material available for neither display nor study because the quarters are utterly inadequate.

Botany.—The material forming the museum in Botany includes the general herbarium numbering about 400,000 specimens and comprising the series of plants collected by the State Botanist; an alcoholic collection

of material for dissection; a collection of the woods of Minnesota; a limited series of Carboniferous and Cretaceous fossil plants, including the Lesquereaux collection from the Minnesota River localities. Two new herbaria are being developed with special reference to museum needs. One is a formation herbarium arranged to show the grouping and importance of the species which form the natural plant societies of the State. The other is designed to show the origin of new forms and species of plants, both in nature and under cultivation. A beginning has also been made in bringing together collections of the Botanical Survey, as well as from other sources, designed to illustrate the uses of plants in everyday life and in the industries.

Mining and Metallurgy.—A museum of mining and metallurgy is located in the School of Mines Building. Representative ores of all the most important metals, drawings, photographs of furnaces, sectional furnace models and samples of all the different furnace products are exhibited to the public and are used as illustrative material for regular classes. Various mine appliances, pieces of machinery, underground photographs, models of mine timbering with sectional maps of some of the large Minnesota properties, complete the collection. A collection begun will include ores from all the important mines on the Mesabi range. These samples with analysis show well the character of ore produced by the State.

Sociology and Anthropology.—Photographs and exhibits, showing the work in Charities and Corrections of the various state institutions; photographs and exhibits of leading national movements for better social conditions; wall-charts and maps which present graphically a large number of sociological facts, from various parts of the United States; a collection of plaster-cast crania and skulls, showing man's ancestors, fossil man from Western Europe, typical members of the various living races and sub-races, both normal and artificially deformed; a collection of face-masks in color, presenting well the Oceanic peoples; a series of busts in white, presenting facial and cranial characteristics of a considerable number of different peoples; natural cranial, skull, and skeletal materials from some dozen different continental and insular geographic areas; the Guthrie collection of ethnologic specimens from the Bulu tribe of Kamerun Province, Africa, presenting the material culture of a savage people in the Tropics; a collection of American Indian stone implements, weapons, etc.

Technology.—A cabinet of specimens illustrating the products and processes of Applied Chemistry is being collected by the Professors of Chemistry, as opportunity offers. The collection embraces fuel, ores, furnace products, textile materials, both raw and manufactured, dye-woods and other materials used in dyeing; specimens illustrating the bleaching and printing of cotton, linen, and woolen goods, earthenware, pottery, etc.

Classics.—Some material illustrating classical geography, topography, chronology, mythology, and art has been collected, consisting mainly of

plans and charts, casts, pictorial illustrations, facsimiles of manuscripts and inscriptions.

English.—A few facsimiles of manuscripts, plates that may serve the purpose of archaeological instruction, publication of texts, reprints of black-letter books and of original editions, photographs, and portraits have been gathered.

The College of Engineering.—The College of Engineering has equipment illustrating the historical development or evolution of many forms of machinery and apparatus in Mechanical and Electrical Engineering. In its shops and electrical laboratory, modern machinery and apparatus is used for actual operation in metal and wood working, and in electrical tests and demonstrations. The new Experimental Laboratory is a large beautiful building devoted to tests of engines, boilers, pumps, the flow of water, the strength of cements and concrete, and many other operations in experimentation and research.

Engineering Mathematics.—This department has recently added to its apparatus used for illustration in teaching, several types of slide-rules including those of Thatcher, Faber, Keuffel and Esser, Schureman's Computer, Boucher's Calculator, also Amsler's Polar Planimeter.

Mathematics.—The collection includes the Shroeder wooden and the Schilling gypsum, string and paper models for Solid Analytical Geometry, many of the Schilling models for illustrating the Theory of Surfaces, several of the Schilling mechanical devices for describing various loci, the Keuffel and Esser models for Solid Geometry, and large slated globes, suitably mounted, for use in Spherical Geometry and Spherical Trigonometry.

LIBRARIES

The University Library consists of

1. The general library.
2. The college libraries, including those of Engineering, Agriculture, Law, Medicine, Pharmacy, and Mines.
3. The departmental libraries, including those of Arts, Astronomy, Animal Biology, Botany, Chemistry, Civil, Mechanical, and Electrical Engineering, French, Geology, German, Greek, Latin, Mathematics, Military Science, Physics, Rhetoric, and Scandinavian.

The whole number of bound volumes owned by the University is about one hundred and fifty thousand; unbound books and pamphlets about twenty thousand. About nine hundred current periodicals are received.

The general library is open to students and the public from eight a. m. to ten p. m., except Sundays and legal holidays.

The departmental libraries are designed especially for the work of their respective departments and consist mainly of books of reference and current periodicals relating to technical subjects. The private col-

lections of the professors are usually available upon application when necessary for research.

Besides the University library the following libraries are easily accessible: The Minneapolis public library, containing over two hundred thousand bound volumes and over fourteen hundred of the leading newspapers, magazines, and periodicals of the world; the St. Paul public library with about one hundred and ten thousand volumes; the Minnesota Historical Society library of about eighty-five thousand volumes and the State library of about fifty-nine thousand volumes in the capitol in St. Paul; the Minnesota Academy of Natural Sciences library of twelve thousand titles.

ASSISTANTS, SCHOLARSHIPS, LOANS, AND PRIZES

ASSISTANTS AND SCHOLARS

It is the policy of the University to encourage graduate study and to provide for assistance in laboratories, reading of test and examination papers, supervision of note books, and similar services by the appointment of assistants and scholars in departments where such services are required. The general principles which now control the making of such appointments are: (1) the appointments are made by the Board of Regents, upon the nomination of the head of the department concerned and its ratification by the dean of the college; (2) appointments are for one year only, but may be renewed; (3) the appointees must be graduate students who are taking work along the line of their appointments; (4) they are not regularly placed in charge of classes, and when exceptions are made to meet emergencies the arrangement is regarded as a temporary one.

FELLOWSHIPS

The Shevlin Fellowships

Four fellowships, each being the income from \$10,000.00, were established in the Graduate School through the gift of \$40,000.00 by the late Thomas Shevlin, of Minneapolis. The donor designated the objects of these four fellowships as follows: Academic, Agriculture, Chemistry, and Medicine.

Academy of Medicine Fellowship

The Minnesota Academy of Medicine has made provision for a research fellowship in the College of Medicine and Surgery, which bears an annual stipend of \$250 to \$300. The appointment of the incumbent is placed in the hands of a committee of the Academy of Medicine, who will determine also the character and extent of the work and in what department it shall be undertaken.

Further information may be obtained from the Dean of the College of the Medicine and Surgery.

SCHOLARSHIPS

The Moses Marston Scholarship in English

Friends and pupils of the late Professor Moses Marston have given one thousand dollars as a memorial fund to him. The annual income of the fund is to be used to further English study. The scholarship is

awarded by the English Department as a recognition of special capacity for literary and linguistic studies.

The Albert Howard Scholarship Fund

Under the last will and testament of Mr. James T. Howard, of the town of St. Johnsbury, Vermont, \$4,166.81 was left to the University to establish a scholarship to be known as the Albert Howard Scholarship.

The Minneapolis Steel and Machinery Company Scholarship

Beginning with the college year 1912-13, the scholarship of \$500.00 created by the Minneapolis Steel and Machinery Company will be available for work by a graduate student in the laboratories of the College of Engineering. The subject upon which work will be carried on is to be determined by agreement between the Company and the College.

The College Woman's Club Scholarship

The College Woman's Club of Minneapolis has established a scholarship for the benefit of women students in this University. For the year 1912-13 this scholarship amounts to \$150. In awarding it the preference will be given to students in the junior and senior classes and to graduate students. Application for this scholarship may be made to the Dean of Women.

STUDENT LOAN FUNDS

The Gilfillan Trust Fund

The Hon. John B. Gilfillan has given to the University the sum of fifty thousand dollars, yielding an annual income of two thousand dollars, to be used by the Board of Regents to assist worthy students, needing such aid, to secure an education. The Regents are empowered to give this aid in the way of loans or gifts, according to the circumstances of the case. As a rule the fund is used as a loan fund, and a small rate of interest is charged. The details of the regulations which have been adopted by the Regents for the administration of the fund may be learned by addressing the President of the University.

The Elliot Scholarship Loan Fund

To fulfill the wishes of the late Dr. A. F. Elliot to aid young men who find their efforts to obtain a practical education embarrassed through lack of means, the sum of \$5,000 was placed in the hands of the Board of Regents as a scholarship fund. The income from this fund is loaned students in the School of Mines on the following conditions: The financial needs of the applicant, his scholarship, moral character, enthusiasm shown in his work, and promise of usefulness in his profession. When

money is available, it may be loaned to pay expenses of worthy students during sickness. The loans are to be repaid, without interest, at the earliest convenience of the recipients.

The Puritan Colony Scholarship Loan

The Puritan Colony of the National Society of New England Women has established a loan fund for women students of the University. For the year 1912-13 this scholarship loan amounts to one hundred dollars. It is available for women students of New England birth or ancestry. In awarding it the preference will be given to young women in the junior and senior classes. Application for it may be made to the Dean of Women.

Students' Trust Fund

The class of 1902 left with the School of Agriculture a fund of \$100 "to assist by temporary loans at a reasonable rate of interest, deserving students needing such help, who are not below the B class in the School of Agriculture." This fund is in charge of a committee consisting of the Dean, the Principal, the Preceptress, and the President of the A class.

The Ludden Trust

The late Honorable John D. Ludden, of St. Paul, gave to the University of Minnesota \$10,000 to be held, invested, and reinvested by the University through its Board of Regents, and the income thereof to be collected, received, and applied by said Board of Regents to the financial assistance of students in the School of Agriculture.

This fund produces \$400 a year. Those wishing to avail themselves of its benefits should apply to the Dean of the Department of Agriculture, who will present the matter to the Board of Regents.

PRIZES

The John S. Pillsbury Prize

Three prizes of one hundred, fifty, and twenty-five dollars each, offered by the heirs of the late John S. Pillsbury, have been awarded for the best work in the Department of Rhetoric, as evidenced finally by an oration in public.

The Frank H. Peavey Prize

Mrs. Frank T. Heffelfinger has continued the prize of one hundred dollars, established by her father, the late Frank H. Peavey. This prize is awarded to the members of the team winning the annual freshman-sophomore debate.

The Maurice L. Rothschild and Company Prize

Maurice L. Rothschild and Company have provided three cash prizes of fifty, thirty, and twenty dollars each, which are annually awarded to those three students in the freshman and sophomore classes who write and deliver the best orations.

The '89 Memorial Prize in History

The class of 1889, at graduation, established a prize of twenty-five dollars each year, to be known as the '89 Memorial Prize, and to be given for the best thesis in history by a member of the graduating class. The award is made by a professor of history in some other institution.

The Frank O. Lowden Prize

The Hon. Frank O. Lowden, of Chicago, offers as prizes to be competed for by the Northern Oratorical League, the annual income on an endowment of three thousand dollars. A prize of one hundred dollars will be given to the orator winning the first place, fifty dollars to the orator winning second place, and the remainder will be set aside each year for an interest fund to accumulate, and, in time, produce another endowment.

The Andrew Lanquist Prize

The Society for the Advancement of the Study of Swedish offers an annual prize of twenty-five dollars to be known as the Andrew Lanquist Prize, in honor of the donor. It is awarded to the student who, during the current year, has received the highest rank in the study of Swedish.

The William Jennings Bryan Prize

The Honorable William Jennings Bryan in 1898 gave the University the sum of two hundred and fifty dollars for the encouragement of studies in Political Science. The quadrennial income from this fund, amounting to fifty dollars, will be awarded every fourth year as a prize to the writer of the best essay upon a topic to be announced. The essay must be handed to one of the instructors in Political Science by May 1, 1913, and must not exceed ten thousand words. Three judges to be designated by the President of the University will award the prize.

The Alumni Weekly Gold Medal

This medal is provided by the *Minnesota Alumni Weekly* and is awarded annually by the Faculty Committee on Debate and Oratory, to that member of the graduating class who has, in the judgment of the Committee, made the best record in forensics during his college course. The medal is awarded only to a student who has shown himself broad-minded, unselfish, industrious, and willing to work courteously and enthu-

siastically with others so as to serve the highest interests of debate and oratory in the University. The recipient must be a type and a model, as nearly as the student body offers such a candidate each year, of what a man may make himself through diligent application to the duty next at hand.

The Rollin E. Cutts Prize in Surgery

Dr. Mary E. Smith Cutts, '91 Medical, has given to the University, as a memorial of her husband, the late Dr. Rollin E. Cutts, '91 Medical, the sum of \$500.00, the income from which is to be awarded in the form of a gold medal to that member of the senior class of the College of Medicine and Surgery who presents the best thesis showing original work upon a surgical subject.

The Dr. J. W. Bell Prize

Through the generosity of Dr. John W. Bell, Emeritus Professor of Clinical Medicine and Physical Diagnosis, an annual prize of \$100 is offered in the College of Medicine and Surgery, to the student showing the highest proficiency in physical diagnosis.

Information as to special conditions connected with this prize may be obtained from the Dean of the College of Medicine and Surgery.

The Mercer Prize

Mr. H. V. Mercer, of Minneapolis, offers three medals to be awarded annually, to the three winning debaters in a Law School debate, or series of debates, to be conducted under rules laid down by the Law Faculty.

The Briggs Prize in Foundry Practice

For the encouragement of students in foundry practice, Mr. O. P. Briggs, commissioner of the National Foundrymen's Association, Detroit, Mich., offers \$75 annually, in two prizes, which are to be accompanied by gold medals. The competition is open to sophomores in the College of Engineering, and the prizes will be awarded for the best essay relative to the above subject. No prize will be awarded if less than five essays are submitted in competition. Essays should contain about 3,000 words and must be submitted to the Professor of Rhetoric on or before May 1st.

The George C. Andrews Prize

Mr. George C. Andrews, M.E. '87, has offered an annual prize to the Senior Mechanical Engineers for the best essay on any subject connected with heating and ventilation. The prize in this contest will consist of \$50.00 in cash accompanied by suitable medal; a second prize will also be given which will consist of \$25.00 in cash accompanied by a medal. The winner of the first prize will be offered a position with the George C. Andrews Heating Company.

Pharmaceutical Association Prize

Nomination for membership in the American Pharmaceutical Association and the first year's dues are offered annually by Dean Wulling to the student in the College of Pharmacy earning the highest total average of all standings.

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STUDENT ORGANIZATIONS AND PUBLICATIONS

RELIGIOUS ORGANIZATIONS

The Young Men's Christian Association has as its object the promotion of "growth in grace and Christian fellowship among its members and aggressive Christian work, by and for students." This Association occupies a commodious building on the campus and keeps it constantly open, with a general secretary in charge. All men in sympathy with the object of the Association are eligible to membership. This building is maintained as the social and religious headquarters of all young men in the University.

This Association provides an employment bureau whose services are free to students in all departments of the institution, as well as a committee to help students find comfortable rooms and boarding places. The Association also maintains an educational department in which students may make up their entrance conditions at a nominal charge for instruction. The general secretary will be pleased to correspond with any young man intending to come to the University. Any inquiry about board, room, employment, or general information will gladly be answered, and a hand-book will be sent to anyone wishing it. Address the General Secretary of the Young Men's Christian Association, University of Minnesota, Minneapolis, Minnesota.

The Young Women's Christian Association is the center of Christian life among the young women of the University. Its object is "to deepen spiritual thought in the University woman, to environ her with a semblance of home, to bring to her friendship, assistance, and sociability by stimulating student fellowship, to give her personal help when necessary thus developing in her the Christ ideal of culture in womanhood."

To this end frequent socials and informal teas are given throughout the year; each Wednesday noon a meeting is held in the Assembly Room of Shevlin Hall. It is the purpose of the association to make these meetings of practical help in the every-day lives of the University girls, by better interpreting the modern trend of religious thought in some of its phases. A number of courses are offered in both Bible and Mission study. The general secretary devotes all of her time to the association and will be pleased to correspond with any young woman who wishes information regarding the University.

All young women are invited to visit the Young Woman's Christian Association before registering. Women from the upper classes will be there during the opening days to give advice and assistance.

The Bishop Gilbert Society, for men, was organized about five years ago by the members of the Episcopal Church. The purpose of the society is to promote the religious welfare of the students generally, and to minister to those in particular who are communicants of the Episcopal Church. The members of the society operate "The University House of the Epis-

copal Church" which is the center of the society's work. The house is owned by a corporation composed of the Bishop of the Diocese of Minnesota, the Rector of Holy Trinity Church, and various other clergymen, and prominent laymen.

The Church Club was founded last year by the Episcopalians to be of service among the women of the University. The Club has maintained religious services and has endeavored to keep in touch with all Episcopal students. It has grown steadily in interest and members. Complete information concerning these two organizations may be obtained by addressing the Rector of Holy Trinity Church, Minneapolis.

The University Catholic Association (the U.C.A.) is an organization of students which has for its purpose the promotion of the welfare of the Catholic students of the University. The work of the Association is under the supervision of a Spiritual Director appointed by the Archbishop. The Association confines itself to uniting those who profess the Catholic faith by means of lectures and entertainments. Regular meetings are held every Sunday afternoon at 4 o'clock in the Y. M. C. A. Building on the Campus. These meetings are addressed by the Spiritual Director and by speakers from among the Catholic clergy and laity of the Twin Cities. All Catholic students and Faculty members are eligible to membership. Plans are under way for the erection of club rooms for the use of the Association.

The University Liberal Association is a non-sectarian religious organization meeting weekly for the purpose of cultivating liberal thought in religious matters, and social intercourse among the so-called liberally religious people upon the campus.

LITERARY, SCIENTIFIC, AND MUSICAL ORGANIZATIONS

Phi Beta Kappa.—A chapter of the honorary society of *Phi Beta Kappa* was established at the University in 1892. A small proportion of the graduates of the College of Science, Literature, and the Arts are elected to membership each year. Election is based upon high scholarship and character.

Sigma Xi.—A chapter of the honorary scientific society of *Sigma Xi* was established at the University in 1896. A small proportion of the graduates of the scientific and technical departments are elected to membership each year. Election is based upon research ability, high scholarship and character.

Tau Beta Pi.—A chapter of the honorary engineering society of *Tau Beta Pi* was established in the University in 1909. The membership of this fraternity is made up of engineering students, and the basis of eligibility is character and excellence in scholarship.

Literary Societies.—There are four men's literary societies at the University: Shakopean, Forum, Castalian, and Platform Club. They are mainly debating clubs. Every student is welcome to attend the literary sessions, but the business sessions are usually held behind closed

doors. Students desiring to join should make early application to some member of the society he prefers, as the membership is limited. The women's societies are Minerva, Theta Epsilon, Thalian, and Acanthus. Members to these are elected only by vote of the society.

The Debating Board has charge of home and inter-collegiate oratorical contests.

Philomathian Literary Society is an organization of the students of the College of Agriculture, its object being to train its members in the art of public speaking, debating, and parliamentary practice. The society meets once a week and presents a program including readings, recitations, debates, etc. The society is co-educational and its membership is limited to forty and includes only students in the College of Agriculture.

The Northern Oratorical League is composed of the oratorical associations of the University of Michigan, Northwestern University, the University of Wisconsin, Oberlin College, the State University of Iowa, the University of Illinois, and the University of Minnesota. Its purpose is to foster an interest in public speaking and to elevate the standard of oratory by holding annual contests. The contests are open only to undergraduates.

The Agricultural Club welcomes to its membership any male student in the College of Agriculture. Faculty men and others especially interested in agriculture may be elected to honorary membership.

The purpose of the club is to promote scientific agriculture by meetings and the public discussion of agricultural problems, especially those which are of immediate importance and upon which little has been published.

The Science Club is composed of the members of the Faculty of the Department of Agriculture and others connected with the institution. Meetings are held on the first Monday evening of each month. The purpose of the club is to bring those connected with the College and Station in closer touch with one another and with the many lines of work carried on in the several divisions.

The Home Economics Association is an association representing all of the students in the Home Economics course, with membership open to all women in the course. It is for the purpose of enlarging the opportunities both social and intellectual, and of furthering the interests of the women of the College of Agriculture both in the University and throughout the State.

The Home Economics Club is an organization of Agricultural College women having for its purpose the furthering of interest in Home Economics and the promotion of social activity among college students. Its membership is limited to thirty (30), the requirement for membership being the completion of at least one semester's work in economics pertaining to the home.

The Forestry Club was organized by the forestry students for the promotion of good fellowship and mutual interests. The specific object of the club is to keep the members up to date on forestry literature and current affairs in the lumber world.

American Chemical Society.—A local section of the American Chemical Society has been organized in Minnesota with headquarters at the University.

School of Chemistry Society.—The School of Chemistry Society is an organization of the students of the school, which meets once a month to consider topics of general interest. The society also procures lecturers to address the school.

The Engineers' Society meets once in two weeks to listen to addresses by prominent engineers and for the discussion of various engineering topics. *The Minnesota Engineer* is published quarterly by this society. It is devoted to the publication of articles upon engineering subjects by professors and students.

The School of Mines Society meets once a month to listen to addresses by students, alumni, and well-known mining and metallurgical engineers on various topics interesting to the professions. All students regularly registered in the School of Mines are eligible to membership. This society forms an important connecting link between the graduates in the field and the School of Mines.

The Minnesota Section of the American Institute of Electrical Engineers meets once a month alternately in St. Paul and Minneapolis. Students of the College of Engineering are welcome at these meetings.

The Northwestern Branch of the American Pharmaceutical Association meets six times a year at the College of Pharmacy or elsewhere in the Twin Cities. Pharmacy students are always welcome at these meetings and are eligible to membership in the Branch.

The Sem. Bot., organized in 1886 at the University of Nebraska, has established an allied convocation at the University of Minnesota. It is essentially a research society in Botany, composed of the botanical staff and of advanced students in the department. It meets alternately in convocation and in chapter to present the results of investigation, and for discussion.

Lambda Alpha Psi.—This society was founded for the purpose of encouraging the study of languages and their literatures. To this end it maintains a course of popular lectures on artistic, literary, and linguistic subjects, given at intervals throughout the college year, by various professors in the University and noted educators from abroad. A small number of students from the senior class in the College of Science, Literature, and the Arts, who have specialized in languages and literature, are elected each year to membership, such elections being based upon scholarship and high character.

The Masquers.—This society was organized in 1898 under the name of the University Dramatic Club. Two plays are given each year after careful training under an experienced dramatic coach. The active membership, limited to thirty, is composed of students who qualify by trials held soon after the beginning of each University year.

The Euterpean Club is a regularly organized body of singers, composed of forty of the women students of the University. The selection of voices

is made at the beginning of each school year. The club is under the direction of Professor Scott.

The Glee and Mandolin Clubs give a public concert each year at the University and make a tour of the State during the holidays.

The University Band is organized as a part of the military system of the University and is composed of about sixty musicians. It is under the efficient leadership of an instructor in music, and furnishes music for military and many other University affairs.

ATHLETIC ORGANIZATIONS

The Athletic Association is an organization having for its object the general physical well-being of the students and the encouragement of a proper spirit in favor of hearty, manly sports.

Board of Control for Athletics.—The athletic sports of the University are under the supervision of a Board of Control made up of eleven members of whom two are members of the Faculty, two are alumni, and seven are students. This board arranges the schedule of games, manages the finances, and exercises a general supervision over all matters connected with athletic contests. It has charge of the whole of the athletic grounds of the University, Northrop Field. This field, containing about six acres, lies immediately adjoining the armory. It contains a modern cinder track, tennis courts, baseball diamond, and football gridiron. The grand-stands have a seating capacity of about fifteen thousand. A large portion of this field was a gift to the University from the heirs of the late John S. Pillsbury, and the brick wall surrounding it is the gift of his son, Mr. A. F. Pillsbury. It is generally conceded to be one of the finest fields in the West.

PUBLICATIONS

The Minnesota Daily is published five times each week during the University year by an organization of University students.

The Junior Annual, called "The Gopher," is a book published annually by the junior class of the University.

The Minnesota Magazine is a monthly magazine devoted to the cultivation of literary taste and effort among the students of the University. It is managed by a board of editors chosen from the senior class.

The Minnesota Alumni Weekly is published each Monday during the University year, thirty-six numbers in all. It is published in the interests of the alumni and the University and is devoted to such news of the alumni and the University as will be of interest to the alumni.

The Minnesota Engineer of the Society of Engineers is published quarterly. It is devoted to the publication of articles upon engineering subjects by professors and students.

The Minnesota Forester is the official organ of the Minnesota State Forestry Association. It is edited by the Forestry Department of the

University and is devoted to the advancement of the forestry movement, with special emphasis on farm forestry.

The School of Mines Bulletin is published annually in April. It is devoted entirely to information concerning the alumni of the School of Mines. A complete record of each alumnus is published from the time of graduation to the time of publication of the Bulletin. The School of Mines Society issues this publication and sends it to every alumnus of the school.

The Minnesota Farm Review is a paper published and managed by the Alumni Association of the School of Agriculture. It is the official organ of the Alumni Association and the Farmers' Club. The *Review* is intended to be a medium through which former students may keep in touch with the Agricultural School and with one another. It also endeavors to bring the farmers of the State into closer touch with the School, the College, and the Experiment Station. To this end, the paper strives to present the latest progress in the experimental work of the various stations and to call attention to the most practical farm practices.

The Botanical Survey publishes *Minnesota Botanical Studies* and *Minnesota Plant Life*. The former is devoted to the results of investigations carried on in the Survey and in the Department of Botany. The latter is a series of popular booklets, treating of the plants of the State. In addition, the Survey publishes at intervals semi-popular scientific monographs, such as *Minnesota Plant Life*, *Minnesota Plant Diseases*, and *Minnesota Freshwater Algae*.

WOMEN STUDENTS

After June first, the Registrar will supply a list of boarding and rooming places recommended for women students. In September, as soon as registration begins, other addresses may be had by application to the Dean of Women, Shevlin Hall. The houses thus recommended make it their particular object to care for the women students of the University. Rooms in them are rented only to women, and parlors are provided in which callers may be received. Attention is called to the fact that only by special permission of the Dean of Women may a woman student occupy a room in a house in which young men are received as lodgers.

While the University has confidence in the houses on its list, it does not advise anyone to engage a room without seeing it. There should always be a definite understanding with the householder as to rates, time of payment, vacation charges, the period for which the room is engaged, and the privileges and rules of the house. Parents are urged to give as careful attention as possible to finding suitable and comfortable rooms for their daughters. In this, as in other matters affecting the well-being of the women students, the Dean of Women is glad to be of any service within her power.

Young women who wish to earn a part of their expenses may generally learn of opportunities by communicating with the Dean of Women. During the college year she holds office hours every week day in the

council room in Alice Shevlin Hall. At such times she welcomes any woman student who cares to come to her, whether for advice, information, or an informal talk.

Sanford Hall.—The University opened in November, 1910, a dormitory for the accommodation of a part of the women students. In honor of Maria L. Sanford, Emeritus Professor of Rhetoric, this dormitory is named Sanford Hall. It is situated on the corner of Eleventh and University Avenues, Southeast. It furnishes a home for ninety girls, about one-half of whom may be freshmen. The charge for room and board is \$225 for the University year. Applications should be sent to the Director of Sanford Hall, The University of Minnesota.

Shevlin Hall.—Through the generosity of the late Thomas H. Shevlin, the University now possesses in Alice Shevlin Hall a building admirably designed and equipped for the use of its women students. It is a two-story and basement structure, the material used being pressed brick with stone trimmings. It has a frontage of one hundred and fourteen feet on Pillsbury Avenue and a depth of fifty-five feet. The purpose of this building is to furnish suitable rest and study rooms for the women attending the University. A lunch room in which luncheon is furnished daily on the cafeteria plan and in which "spreads" and banquets are given, is one of the useful and attractive parts of the building.

The Student Government Association for Women.—This organization was formed for the purpose of aiding in the care and conduct of Alice Shevlin Hall. Every woman student in the University is regarded as a member. There are no dues. The Association makes rules for the guidance of those using Alice Shevlin Hall; it provides committees to enforce the rules; it gives permission for the holding of social functions in the building; and it controls the expenditure of any surplus in the receipts from the lunch room.

The Woman's League.—This organization is open to all women who are students in the University. It is governed by a council made up of student members from the four college classes. It makes its headquarters in the council room in Alice Shevlin Hall. The aim of the organization is to promote good fellowship and sociability among the women of the University. For this purpose it gives receptions and parties for girls at regular intervals throughout the year. It also endeavors to aid in any project which may be of benefit to the University, and particularly to the women students.

ADMISSION

Admission to the colleges or schools of the University which accept students direct from the High School is either by certificate or examination, or both. The candidate must offer fifteen units of high school work so chosen as to include those subjects required by the college or school which he desires to enter. No candidate will be admitted with less than fifteen units of the required grade, except to the College of Pharmacy and the School of Agriculture for which graduation from the High School is not required. The Enrollment Committee may, however, authorize substitutions in the list of required subjects to the extent of one unit in case the candidate did not have an opportunity to take all the required subjects, provided that no substitutions shall be made for the mathematics requirement in Engineering, Agricultural, and Mining courses.

No new student will be admitted to the work of the second semester unless he brings from another college a certificate of advanced standing showing his qualification to continue the second semester's work.

Under *Admission Groups* is shown the minimum number of units that will be accepted in any one subject by any college of the University. For a statement of the specific units required by the various colleges of the University and the maximum and minimum number of units accepted in any subject or group, see *Requirements of Individual Colleges*, pages 74-77.

ADMISSION GROUPS

The term *unit* means not less than five recitations of forty minutes each per week for a period of thirty-six weeks. In manual subjects and kindred courses, it means the equivalent of ten recitation periods per week for thirty-six weeks.

A major series is three or more units in one of the admission groups.

A minor series is two units in one of the groups.

To form a language series at least two units of the same language must be offered.

Group A: English

English, four or three units*

- (a) Principles of rhetoric
- (b) Practice in written expression in each of the years of the course, on an average of not less than one hour a week
- (c) Classics

*Three units will satisfy the English requirement in the College of Engineering, and, when the applicant presents four units in one foreign language, will suffice for the other colleges.

Group B: Languages

Latin—

- Grammar, one unit
- Caesar, four books, one unit
- Cicero, six orations, one unit
- Virgil, six books, one unit

Greek—

- Grammar, one unit
- Anabasis, four books, one unit

German—

- Grammar, one unit
- Literature, one, two, or three units

French—

- Grammar, one unit
- Literature, one, two, or three units

Spanish—

- Grammar, one unit
- Literature, one two, or three units

Scandinavian Languages—

- Grammar, one unit
- Literature, one, two, or three units

Group C: History and Social Sciences

History—

- Ancient, to Charlemagne, one unit
- Modern, from Charlemagne, one unit
- English, one-half unit
- Senior American, one-half unit
- American Government, one-half or one unit

Elementary Economics, one-half unit

Commercial Geography, one-half or one unit

History of Commerce, one-half or one unit

Economic History of England, one-half unit

Economic History of the United States, one-half unit

Group D: Mathematics

- Elementary Algebra, one unit
- Plane Geometry, one unit
- Higher Algebra, one-half unit

Solid Geometry, one-half unit

Trigonometry, one-half unit

Group E: Natural Sciences

- Physics, one unit
- Chemistry, one unit
- Botany, one-half or one unit
- Zoology, one-half or one unit

Physiology, one-half unit

Astronomy, one-half unit

Geology, one-half unit

Physiography, one-half unit

Group F: Vocational Subjects

Not to exceed four units may be offered from the following list of vocational subjects:

Business Subjects—

- Business Law, one-half unit
- Business Arithmetic, one-half unit
- Elementary Bookkeeping, one unit

Advanced Bookkeeping, one unit
 Stenography and Typewriting, two units

Manual Subjects—

- Freehand Drawing, two units
- Mechanical Drawing, two units
- Domestic Art and Science, four units

Shop Work, two units
 Modeling and Wood Carving, one unit

Agriculture—

One to four units from schools receiving special state aid for Agriculture and also from other schools in which such course in Agriculture is approved by the State High School Board, as fast as the said schools are prepared to offer work in Agriculture.

REQUIREMENTS OF THE INDIVIDUAL COLLEGES

COLLEGE OF SCIENCE, LITERATURE, AND THE ARTS

1. Four years of English, or three years of English accompanied by four years of one foreign language.
2. A major and a minor series, each chosen from one of the admission groups B, C, D, E. Either the major or the minor series must be in Mathematics.
3. Enough additional work to make in all fifteen units of which not more than four may be in Group F.

COLLEGE OF ENGINEERING AND THE MECHANIC ARTS

1. English Three units
2. Mathematics Three units
3. Chemistry One unit
4. A minor series chosen from one of the groups B, C, and E. (The required Chemistry may be included in a science series.) To form a language series at least two units of the same language must be offered.
5. Enough additional work to make in all fifteen units of which not more than three may be in group F, with the provision that not more than one unit will be accepted in each of the following subjects: Freehand Drawing, Mechanical Drawing, and Shop Work; not more than two units in Agriculture, and not less than two units in Stenography and Typewriting if that subject be offered.

Students who have not either completed the required Mathematics with a grade of *Pass with Credit* during the three years immediately preceding matriculation, or completed a four years' course in Mathematics with like standing immediately preceding matriculation, and those who do not hold High School Board or College Entrance Examination Board certificates of proper date in the mathematical subjects required, must take entrance examinations in those subjects at the University. The certificate for either Higher Algebra or Solid Geometry must be dated within one year prior to admission to the University, and the other must be dated within two years of such time.

DEPARTMENT OF AGRICULTURE

College of Agriculture

Course in Agriculture

1. English, four units, or three units accompanied by four units of one foreign language.

2. Mathematics, major series, including Elementary and Higher Algebra, Plane and Solid Geometry.

3. Physics, one unit.

4. A minor series in one of the admission groups B, C, and E. (The required Physics may be included in a science series.)

5. Enough additional work to make in all fifteen units of which not more than four may be in Group F.

Course in Home Economics

1. English, four units, or three units accompanied by four units of one foreign language.

2. Physics, one unit. (May be included in a natural science series.)

3. A major and a minor series, each chosen from one of the groups B, C, D, E. Either the major or the minor series must be in Mathematics.

4. Enough additional work to make in all fifteen units of which not more than four may be in Group F.

College of Forestry

Same as for the Course in Agriculture under College of Agriculture. See page 74.

School of Agriculture (Three-Year Course)

Applicants must be 17 years of age, and must have completed eighth grade work or its equivalent. Male students must have six months' farm practice before entrance. For information concerning short courses, see Bulletin of the School of Agriculture.

THE LAW SCHOOL

Students desiring to enter the Law School must first complete two full years (not less than sixty* credits) of collegiate work in science, literature and arts at this or some other university or college of equal rank. See admission to the College of Science, Literature, and the Arts, page 74.

A special pre-legal course is offered by the Academic College covering those subjects which are particularly desirable as a preliminary for the study of Law.

The Law Faculty recommends that prospective law students devote the major part of their time while in High School to the study of the following subjects: English, Latin, History, Mathematics, French, and Science.

COLLEGE OF MEDICINE AND SURGERY

Applicants for admission to the College of Medicine and Surgery must present credentials showing the completion of a regular four-year high school course, including two units of Latin.

Students entering in September, 1912, or thereafter, must have received the bachelor's degree in arts or science from this University or

*Sixty-two credits until September, 1914.

some other university or college of equal rank, or must register in one of the combined courses offered by the College of Science, Literature, and the Arts and the College of Medicine and Surgery so as to receive the bachelor's degree before graduating in Medicine.

The following subjects are required of all candidates: Rhetoric, 6 credits; General Inorganic Chemistry, 6 credits; Physics, 8 credits; Zoology (preferred) or Botany, 6 credits; sufficient German or French to insure a reading knowledge. This language requirement will ordinarily involve one or two years of college work depending upon prior high school training. The head of the appropriate department shall determine the student's qualification in this matter. In addition at least one social science course must be completed.

COLLEGE OF DENTISTRY

1. English, four units, or three units accompanied by four units of one foreign language.

2. Chemistry, one unit.

3. A major and a minor series, each chosen from one of the admission groups B, C, D, E. (The required Chemistry may be included in a science series.) Either the major or the minor series must be in Mathematics.

4. Enough additional work to make in all fifteen units of which not more than four may be in Group F.

Because of the limited capacity of the College of Dentistry, the number of freshmen admitted will be limited to eighty-five. The student who desires to enter this college in September, 1912, should fill out and send to the University a special application blank, which will be sent him as soon as his regular credential blank has been received by the Registrar. Both blanks should be in the Registrar's hands not later than August 1st.

The student's entire scholastic and industrial record will be taken into consideration in determining admission, and applicants will be notified promptly concerning the possibility of their matriculation.

COLLEGE OF PHARMACY

| | |
|-------------------------|-----------|
| English..... | Two units |
| Elementary Algebra..... | One unit |
| Plane Geometry..... | One unit |
| Physics..... | One unit |
| Latin..... | Two units |

SCHOOL OF MINES

A certificate of graduation from an accredited school will be accepted for admission to the School of Mines, subject to the specific requirements noted below.

Five-Year Courses

1. English, four units, or three units accompanied by four units of one foreign language.

2. Mathematics, two units, including Elementary Algebra and Plane Geometry.

3. Enough additional work to make in all fifteen units, of which not more than four may be in Group F.

Applicants for admission to the above courses need not take entrance examinations in Mathematics.

Four-Year Courses

1. English, four units, or three units accompanied by four units of one foreign language.

2. Mathematics, three units, including Elementary and Higher Algebra, Plane and Solid Geometry.

3. Enough additional work to make in all fifteen units of which not more than four may be in Group F.

Entrance examinations in Elementary and Higher Algebra, Plane and Solid Geometry are required of all candidates for admission to these courses.

THE SCHOOL OF ANALYTICAL AND APPLIED CHEMISTRY

1. English, four units, or three units accompanied by four units of one foreign language.

2. A major or a minor series, each chosen from one of the admission groups B, C, D, E. One of the series must be in Mathematics.

3. Enough additional work to make in all fifteen units of which not more than four may be in Group F.

Students entering the Analytical Course or the five-year course in Applied Chemistry must present one-half unit of Higher Algebra.

COLLEGE OF EDUCATION

Applicants for admission to this College must present credentials showing:

1. The completion of a regular four-year high school course.

2. The completion of two full years of collegiate work (not less than sixty credits) in science, literature, and arts at this or some other college or university of equal rank.

Graduation from Advanced Graduate Normal Courses (two years beyond the high school) is considered equivalent to (1) and (2) above.

Graduates of a five-year Normal Course are allowed forty-two credits and are admitted to the College as unclassified students pending the completion of eighteen additional credits.

ADMISSION BY EXAMINATION

Entrance examinations are offered at the University during the opening week, September 10th to 13th. Candidates entering by this method must pass examinations in fifteen units so chosen as to satisfy the specific

requirements of the college to which entrance is desired. (See *Requirements of Individual Colleges*.) Certificates from the College Entrance Examination Board and from the High School Board are accepted (subject to time limit for Engineering Courses, see page 74) in lieu of examinations except in the Mathematics required for admission to the four-year courses in the School of Mines. For statement of examinations for students entering on certificate, see under *Admission by Certificate*, below.

ADMISSION BY CERTIFICATE

Graduates of the following courses, provided their preparation satisfies the specific requirements of the college they desire to enter, will be admitted to the freshman class, except where entrance examinations are required.

1. Any four-year course of a Minnesota State High School or other accredited school in the State.
2. A four-year course of schools in any other state accredited to the state university of that state.
3. The Advanced Latin and Advanced English course of the Minnesota State Normal Schools.

Admission by certificate to the Colleges of Science, Literature, and the Arts, Engineering, Agriculture, Chemistry, and Dentistry is governed by the following regulations. For regulations governing the admission to Colleges of Law, Medicine and Surgery, Mines, and Education, see under *Requirements of Individual Colleges*, pages 74-77.

1. The applicant for admission must present to the Registrar the principal's certificate containing his record on all the studies which were counted toward graduation. All records shall be entered on this certificate as *passed*, *passed with credit*, or *passed with honor*.*

To facilitate the operation of this rule, each accredited school is expected to keep its record of standings in these three grades or else show by a printed statement in the record book and in the catalogue of the school, how the marks in use are to be translated into these grades.

2. Candidates for admission on certificate must have an average record in the subjects counted for admission of *pass with credit*. For the purpose of this average a *pass* is offset by a *pass with honor*. Candidates are therefore admitted provided they have at least as many semester marks of *pass with honor* as they have semester marks of *pass*.

Certificates from the College Entrance Examination Board and from the State High School Board are accepted (subject to time limit for Engineering courses, see page 74) as satisfying the scholarship requirement.

Candidates entering on certificate shall not be examined for admission on subjects which are lacking or below the required grade, except on

*In per cent, these three grades are to be interpreted approximately as follows:

1. In schools having 65 as a passing mark, *passed*=65-75, *passed with credit*=75-90, *passed with honor*=90-100.
2. In schools having 75 as a passing mark, *passed*=75-80, *passed with credit*=80-90, *passed with honor*=90-100.

presentation to the Enrollment Committee of satisfactory evidence that they have done adequate special work in preparation for the examination. A certificate from the principal of the last school attended, or other person approved by the Enrollment Committee, shall constitute satisfactory evidence; and adequate special preparation shall consist of not less than thirty 60-minute hours under competent instruction on each semester subject presented for examination.

In case the records of any candidate from another state cannot be translated into the grades used in this state, the Enrollment Committee shall order examinations in English and also in three other subjects chosen from three different admission groups; in Engineering and four-year Mining courses, the examinations shall include the required Mathematics. The results of such examinations shall be final.

All examinations authorized by the Committee shall be held at the same time and according to the same schedule as the regular entrance examinations.

ADMISSION AS UNCLASSED STUDENTS

Only by permission of the proper officers and upon the presentation of satisfactory reasons for not taking the regular course will an applicant be admitted as an unclassified student. He must take the same examinations or present the same credentials as are required of those who enter the freshman class. (See classes 1 and 2.) Exceptions can be made only upon vote of the appropriate Faculty. A new application must be made each semester to the committee in charge. No student will be admitted as unclassified after the fourth week. No unclassified student shall be admitted to the School of Mines.

ADMISSION TO STUDY MUSIC

Students who enter the University for the express purpose of studying Music, must take the same examinations or present the same credits that are required by those who apply for admission to the freshman class. (See classes 1 and 2.) No student is admitted for the purpose of studying Music unless he presents a certificate from the Department of Music showing that he is qualified to pursue the courses offered.

ADMISSION TO ADVANCED STANDING

1. *From Other Colleges*

This college accepts records from all reputable colleges and universities for credit to advanced standing. Such records are accepted as far as they are equivalent to the work done in this College. In bringing

records from other institutions, the certificate must be upon the official blank of the institution granting the certificate and should show:

- (a) The subject studied; if a language, the books read, etc.
- (b) The time spent upon each subject.
- (c) Ground covered in laboratory work in case of laboratory subjects.
- (d) The result. The exact grades should be stated, accompanied with an explanation of the marking basis employed.

Candidates wishing to gain credits for advanced standing by examination are allowed examinations without additional charge, providing they be taken within six weeks after matriculating.

2. *From Minnesota Normal Schools*

Graduates of the Advanced Graduate course of a Minnesota State Normal School are admitted to the College of Science, Literature, and the Arts (see Bulletin of College of Science, Literature, and the Arts) with advanced standing equivalent to one year's credit. Graduates of such advanced courses are admitted to the College of Education with an allowance of sixty credits toward graduation. (See Bulletin of the College of Education.)

Individual graduates of the Advanced Latin course (five-year) or of the Advanced English course (five-year) of a Minnesota State Normal School who, on the basis of maturity and ability, present certificates of special fitness from the President of the Normal School, will be admitted with advanced standing equivalent to one year's credit. Graduates of such courses are admitted to the College of Education with an allowance of forty-two credits toward graduation.

3. *Miscellaneous*

Credit in Shop Work and Drawing will be given in the College of Engineering for work in manual training, or for practical experience, provided the applicant gives evidence of proficiency in such work, and is qualified to pursue advanced work. The student must register for the regular work and at the same time make application to the department concerned for advanced credit.

LIST OF ACCREDITED SCHOOLS

Graduates of the following Minnesota state high schools will be admitted to the University of Minnesota without conditions, provided that their credentials satisfy the specific requirements of the college to which entrance is desired.

| | | |
|------------|------------|-----------|
| Ada | Alden | Appleton |
| Adrian | Alexandria | Argyle |
| Aitkin | Amboy | Arlington |
| Akeley | Annandale | Atwater |
| Albert Lea | Anoka | Austin |

| | | |
|------------------|-----------------|----------------|
| Bagley | Fosston | Mabel |
| Barnesville | Frazee | McIntosh |
| Belle Plaine | Fulda | Madelia |
| Bemidji | Gaylord | Madison |
| Benson | Gilbert | Mankato |
| Bird Island | Glencoe | Mantorville |
| Biwabik | Glenwood | Mapleton |
| Blooming Prairie | Graceville | Marshall |
| Blue Earth | Grand Meadow | Milaca |
| Brainerd | Grand Rapids | Minneapolis |
| Breckenridge | Granite Falls | Central |
| Browns Valley | Hallock | East |
| Buffalo | Halstad | North |
| Caledonia | Harmony | South |
| Cambridge | Hastings | West |
| Canby | Hawley | Minneota |
| Cannon Falls | Hector | Montevideo |
| Cass Lake | Henderson | Montgomery |
| Chaska | Herman | Monticello |
| Chatfield | Heron Lake | Moorhead |
| Chisholm | Hibbing | Mora |
| Clarkfield | Hinckley | Morris |
| Cloquet | Hopkins | Morton |
| Cokato | Houston | Mountain Lake |
| Coleraine | Howard Lake | New Prague |
| Cottonwood | Hutchinson | New Richland |
| Crookston | Jackson | New Ulm |
| Dawson | Janesville | North St. Paul |
| Delano | Jordan | Northfield |
| Detroit | Kasota | Olivia |
| Dodge Center | Kasson | Ortonville |
| Duluth | Kenyon | Osakis |
| Central | Kerkhoven | Owatonna |
| Industrial | Lake Benton | Park Rapids |
| Eagle Bend | Lake City | Paynesville |
| E. Grand Forks | Lake Crystal | Pelican Rapids |
| Elbow Lake | Lake Park | Perham |
| Elk River | Lakefield | Pine City |
| Elmore | Lamberton | Pine Island |
| Ely | Lanesboro | Pipestone |
| Eveleth | Le Roy | Plainview |
| Excelsior | Le Sueur | Preston |
| Fairfax | Le Sueur Center | Princeton |
| Fairmont | Litchfield | Red Lake Falls |
| Faribault | Little Falls | Red Wing |
| Farmington | Long Prairie | Redwood Falls |
| Fergus Falls | Luverne | Renville |
| Fertile | Lyle | Rochester |

| | | |
|-----------------|-------------------|--------------|
| Royalton | Sherburn | Wadena |
| Rush City | Slayton | Warren |
| Rushford | Sleepy Eye | Waseca |
| St. Charles | South St. Paul | Waterville |
| St. Cloud | Springfield | Wayzata |
| St. James | Spring Grove | Welcome |
| St. Louis Park | Spring Valley | Wells |
| St. Paul | Staples | West Concord |
| Central | Stephen | Wheaton |
| Humboldt | Stewartville | White Bear |
| John A. Johnson | Stillwater | Willmar |
| Mechanic Arts | Thief River Falls | Windom |
| St. Peter | Tracy | Winnebago |
| Sandstone | Two Harbors | Winona |
| Sauk Center | Tyler | Winthrop |
| Sauk Rapids | Virginia | Worthington |
| Shakopee | Wabasha | Zumbrota |

Graduates of the following private schools will be admitted to the freshman class under the same conditions governing admission of high school graduates, provided that the regular four-year course taken satisfies the specific requirements of the college to which entrance is desired and provided, also, that the student be recommended by the principal of the school for admission to the University.

| | |
|---|--|
| St. Mary's Hall, Faribault | The Winona Seminary, Winona |
| St. Paul Academy, St. Paul | St. John's College, Collegeville |
| Shattuck Military Academy, Faribault | St. Thomas College, St. Paul |
| Stanley Hall, Minneapolis | Villa Maria, Frontenac |
| Windom Institute, Montevideo | Park Region Luther College, Fergus Falls |
| Concordia College, Moorhead | Minnesota College, Minneapolis |
| Pillsbury Academy, Owatonna | Bethel Academy, St. Paul |
| St. Joseph's Academy, St. Paul | Lutheran Ladies' Seminary, Red Wing |
| Graham Hall, Minneapolis | Cathedral High School for Girls, Duluth |
| Albert Lea College, Prep. Dept., Albert Lea | Blake School for Boys, Minneapolis |
| St. Paul's College, St. Paul Park | Bethlehem Academy, Faribault |
| The Loomis School, St. Paul | Cathedral High School for Boys, Duluth |
| The Backus School for Girls, St. Paul | Villa Sancta Scholastica, Duluth |
| The College of St. Catherine, St. Paul | Convent of St. Benedict, St. Joseph |
| St. Margaret's Academy, Minneapolis | |

DESCRIPTION OF SUBJECTS ACCEPTED FOR ADMISSION

The following statements indicate in a general way the preparation which the University expects in the various subjects accepted for admission. The number of units in parentheses following each subject indicates the maximum credit accepted by any one college of the University and does not mean that all colleges will accept the maximum stated. See pages 74 to 77 for statements of the requirements of the individual colleges.

English (four units)

In order to secure a definite plan of study and unity of method on the part of preparatory schools, the entrance requirement in English is outlined below somewhat in detail. To satisfy this requirement a course of not less than four hours per week must be pursued during the time specified above. The headings under which instruction will naturally fall are:

- (a) The Principles of Rhetoric
- (b) Practice in Written Expression
- (c) English Classics

(a) The work in the principles of rhetoric should include the principles and technical terms of ordinary texts upon the subject, whether acquired by the direct study of such text or mainly by the study of selected English masterpieces. It should not be forgotten that this is not an end in itself, but simply a means of teaching the student the correct use of English.

(b) An average of not less than one hour each week in each of the years of the course should be devoted to practice in written expression, subject to the criticism, either oral or written, of the teacher. The instructor may choose such topics as local conditions may require or make most profitable; but whatever line of work is pursued, the student should be taught to use language correctly and forcibly and learn to express himself clearly and logically in writing.

(c) The preparation in English Literature should consist in the study of a limited number of English classics and in the reading of a larger number. The following lists of books, headed respectively *reading* and *study*, are quoted from the report of the National Conference on Uniform Entrance Requirements in English. They will be found suggestive to those preparing students for the University. In connection with both lists, the student should be trained in reading aloud and be encouraged to commit to memory some of the more notable passages both in verse and in prose. As an aid to literary application, he is further advised to acquaint himself with the most important facts in the lives of the authors whose works he reads and with their place in literary history.

a. *Reading*.—The aim of this course is to foster in the student the habit of intelligent reading and to develop a taste for good literature, by giving him a first-hand knowledge of some of its best specimens. He should read the books carefully, but his attention should not be so fixed upon details that he fails to appreciate the main purpose and charm of what he reads.

With a view to large freedom of choice, the books provided for reading are arranged in the following groups, from which at least ten units are to be selected, two from each group:

I. The *Old Testament*, comprising at least the chief narrative episodes in Genesis, Exodus, Joshua, Judges, Samuel, Kings, and Daniel, together with the books of Ruth and Esther; the *Odyssey*, with the omission, if desired, of Books I, II, III, IV, V, XV, XVI, XVII; the *Iliad*, with the omission, if desired, of Books XI, XIII, XIV, XV, XVII, XXI; Virgil's *Aeneid*. The *Odyssey*, *Iliad*, and *Aeneid* should be read in English translations of recognized literary excellence.

For any unit of this group a unit from any other group may be substituted.

II. Shakespeare's *Merchant of Venice*; *Midsummer Night's Dream*; *As You Like It*; *Twelfth Night*; *Henry the Fifth*; *Julius Caesar*.

III. Defoe's *Robinson Crusoe, Part I*; Goldsmith's *Vicar of Wakefield*; either Scott's *Ivanhoe* or Scott's *Quentin Durward*; Hawthorne's *House of Seven Gables*; either Dickens'

David Copperfield or Dickens' *Tale of Two Cities*; Thackeray's *Henry Esmond*; Mrs. Gaskell's *Cranford*; George Eliot's *Silas Marner*; Stevenson's *Treasure Island*.

IV. Bunyan's *Pilgrim's Progress, Part I*; *The Sir Roger de Coverley Papers* in the Spectator; Franklin's *Autobiography* (condensed); Irving's *Sketch Book*; Macaulay's *Essays on Lord Clive* and *Warren Hastings*; Thackeray's *English Humorists*; *Selections* from Lincoln, including at least the two Inaugurals, the Speeches in Independence Hall and at Gettysburg, the Last Public Address, and Letter to Horace Greeley, along with a brief memoir or estimate; Parkman's *Oregon Trail*; either Thoreau's *Walden* or Huxley's *Autobiography* and selections from *Lay Sermons*, including the addresses on Improving Natural Knowledge, A Liberal Education, and A Piece of Chalk; Stevenson's *Inland Voyage* and *Travels with a Donkey*.

V. Palgrave's *Golden Treasury (First Series), Books II and III*, with especial attention to Dryden, Collins, Gray, Cowper, and Burns; Gray's *Elegy in a Country Churchyard* and Goldsmith's *Deserted Village*; Coleridge's *Ancient Mariner* and Lowell's *Vision of Sir Launfal*; Scott's *Lady of the Lake*; Byron's *Childe Harold, Canto IV*, and *Prisoner of Chillon*; Palgrave's *Golden Treasury (First Series), Book IV*, with especial attention to Wordsworth, Keats, and Shelley; Poe's *Raven*, Longfellow's *Courtship of Miles Standish*, and Whittier's *Snow Bound*; Macaulay's *Lays of Ancient Rome* and Arnold's *Sohrab and Rustum*; Tennyson's *Gareth and Lynette*, *Lancelot and Elaine*, and *The Passing of Arthur*; Browning's *Cavalier Tunes*, *The Lost Leader*, *How They Brought the Good News from Ghent to Aix*, *Home Thoughts from Abroad*, *Home Thoughts from the Sea*, *Incident of the French Camp*, *Hervey Riel*, *Pheidippides*, *My Last Duchess*, *Up at a Villa—Down in the City*.

b. Study.—This part of the requirement is intended as a natural and logical continuation of the student's earlier reading, with greater stress laid upon form and style, the exact meaning of words and phrases, and the understanding of allusions. For this close reading are provided a play, a group of poems, an oration, and an essay, as follows:

Shakespeare's *Macbeth*; Milton's *L'Allegro, Il Penseroso* and *Comus*; either Burke's *Speech on Conciliation with America* or both Washington's *Farewell Address* and Webster's *First Bunker Hill Oration*; either Macaulay's *Life of Johnson* or Carlyle's *Essay on Burns*.

Elementary Algebra (one unit).—Addition, subtraction, multiplication, division, factoring, highest common divisor, lowest common multiple, fractions, equations with one, two, and several unknown quantities followed by problems, theory of exponents, involution (including the binomial theorem for positive integral exponents), evolution, radicals, ratio, proportion and quadratic equations, with problems.

Higher Algebra, First part (one-half unit).—While this subject includes few topics not named under Elementary Algebra, a much fuller treatment of those topics is expected in this work. Principles as well as processes should be learned, theorems and rules should be rigorously demonstrated, the exercises and problems should be more difficult, and students should be drilled in short methods and rapid work. Unless candidates have a good knowledge of the fundamental topics named below they are not prepared to pursue successfully at the University the Second Part of Higher Algebra.

The topics are addition, subtraction, multiplication, division, factoring, highest common divisor, lowest common multiple, fractions, theory of exponents, involution, evolution, surds, imaginaries, simple equations with one, two and several unknown quantities, inequalities, ratio and proportion, arithmetical and geometrical progressions, quadratic equations and numerous problems requiring both simple and quadratic equations.

Plane Geometry (one unit).—Any of the standard texts on this subject will furnish the necessary preparation. Isoperimetry, symmetry and maxima and minima of figures are not required. The exercises requiring solutions and demonstrations should not be omitted.

Solid Geometry (one-half unit).—Any of the standard texts on this subject will furnish the necessary preparation. The exercises requiring solutions and demonstrations should not be omitted.

Latin Grammar (one unit).—This will include the subjects of orthography, etymology, and syntax. Proficiency is particularly desired in the following subjects: the analysis of the verb forms, the rules of syntax, and the principal parts of the irregular verbs.

Caesar (one unit).—First four Books or selections from the seven books equivalent to four; or three books, with thirty pages of Cornelius Nepos, or two books with sixty pages of Cornelius Nepos. The student is expected to be familiar with the life of Caesar and an account of his wars.

Cicero (one unit).—Any six orations from the following list: *Against Cataline*, *Poet Archias*, *Ligarius*, *Marcellus*, *Manilian Law* (to count as two orations), the fourteenth *Phillipic*. The student should also be familiar with the life of Cicero.

Virgil (one unit).—Six books of the *Aeneid*, or five of the *Aeneid* and one of the *Metamorphoses* of Ovid, or the *Eclogues*. The student should be familiar with the life of Virgil and an account of his times and writings. A correct rhythmical reading of the text is to be encouraged.

Greek Grammar (one unit).

Xenophon's Anabasis, four books (one credit).

German (four units).

First year the student should acquire:

(1) A correct pronunciation, training of the ear, eye, and organs of speech.

(2) A vocabulary of a thousand words of every-day use; facility in combining these words into simple sentences. As a means to this, 100 to 150 pages of easy narrative prose and poetry should be read, from which questions and answers may be formed. To test the student's memory and knowledge of the word-order he should relate or write out the story anew in his own words.

(3) From two to three hundred German idioms.

(4) The essentials of German grammar, to be taught by means of oral and written exercises based upon the reading lessons.

Second year the pupil should:

(1) Read one hundred and fifty to two hundred pages of prose and poetry.

(2) Practice reading smoothly and with expression.

(3) Carefully translate selected passages of the text into idiomatic English. To translate easy sentences which the student already understands is a waste of time.

(4) Translate sentences from English into German, using words and idioms of the text read.

(5) Study topically German grammar, chief rules of orthography, etymology and syntax: illustrate these words, phrases, and sentences selected or composed by the student.

One or two additional years of work in literature will be accepted.

French (four units).—This work comprises the principles of French grammar, including acquaintance with the verb, regular and irregular, and ability to translate easy English sentences into French and simple French prose into English.

One or two additional years of work in literature will be accepted.

Spanish (four units).—The first year's work includes grammar and reader; second year, grammar reviewed, reading of some modern writer, composition and conversation.

One or two additional years of work in literature will be accepted.

Scandinavian Languages. Norwegian, Swedish, or Icelandic (four units).—The student should acquire the principles of grammar, ability to read and translate ordinary prose and easy poetry, also to translate from English, and a fair acquaintance with the history of the Scandinavian countries. Two additional years' work in literature will be accepted.

Ancient History (one unit).—This study should begin with from five to seven weeks upon the oriental peoples who have most influenced European development, and should be carried down to the establishment of Charlemagne's empire.

Modern History (one unit).—From Charlemagne to the present. It is desirable to give at least half of the year to the last period from 1789.

English History (one-half unit).—The Saxon period should be passed over rapidly. In the remainder of the work, besides the narrative, constitutional points should receive attention, and easily accessible documents, like Magna Charta, should receive careful study.

Senior American History (one-half unit).—No attempt should be made to cover the whole field in this time. Either the colonial history or the period from 1783 to 1832 offers quite enough material. In any case, considerable use should be made of collections of documents and sources.

American Government (one-half or one unit).—This should be a study of our government, national, state, and local, as it is organized and actually operated to-day. The instruction should aim to impart information essential to intelligent, active citizenship, such as the division of the government into departments, their organization and function; the methods of nominating, electing, and appointing men to office; of framing and amending constitutions, city charters, and statutes; of drawing grand and petit juries and the duty of

the citizen to serve on them; the distinction between common law, state law, and constitutional law, between equity, civil, and criminal cases.

Elementary Economics (one-half unit).—In the study of Economics it is desirable to avoid two extremes, abstract theory on the one hand, and controversial questions, such as the tariff, trusts, and trade unions, on the other hand. Emphasis should be placed on historical and descriptive matter, especially relating to the economic development of England and the United States. Some good elementary text-book should be mastered and a reasonable amount of collateral reading required.

History of Commerce (one-half or one unit).—This forms the natural introduction to the study of present economic conditions. It would be well to give special attention to the economic history of England and the United States. The work should be based on a text-book, supplemented by carefully directed map work and assigned readings. This should be preceded by a year course of medieval and modern European history.

Commercial Geography (one-half or one unit).—This describes and seeks to explain the commerce of to-day. The work should cover the ways in which commerce depends on nature and on man, the development of means of transportation and communication, and a detailed study of the several commercial regions of the world with reference to resources, industries, transportation facilities, and commerce. It should be based on a text-book supplemented by map work and assigned readings.

Physics (one unit).—It is suggested that the year's work be confined to four of the seven subjects mentioned below.

(1) Mechanics of solids, (2) liquids and gases, (3) sound, (4) heat, (5) light, (6) and (7) electricity and magnetism (to count as two subjects, but not to be divided).

Chemistry (one unit).—The full year's work should include a study of both the non-metals and metals with laboratory experiments illustrating the common chemical laws and the commoner chemical reactions.

Botany (one or one-half unit).—The course in Botany should extend through the school year whenever it is at all possible, even if as much time cannot be given to it each week as when it occupies a single semester. The course should follow as closely as possible the nature and work of plants during the changing seasons of the year. The major portion of the work should be with living plants, naming the common plants of the neighborhood, both cultivated and native, and studying plant parts from the seed to maturity.

Zoology (one or one-half unit).—Animals should be studied as living units in their relation to one another and their environment. The aim of the teacher should be to foster a love for animate nature and to develop accuracy in observation and description.

Astronomy (one-half unit).—An elementary course in general astronomy as presented in any good modern text-book will satisfy this requirement.

Geology (one-half unit).—These subdivisions should receive special attention: physiographic geology, the building of the land and the evolution of its existing contours; geodynamics, the modifying of the earth by atmosphere, water, terrestrial heat, plants, and animals; and a brief survey of historical geology.

Physiography (one-half unit).—The following topics should be emphasized: meteorology, the leading facts relating to the atmosphere and its phenomena, including some acquaintance with the work of the United States weather bureau; land sculpture, as it treats of the origin, development, and decadence of land forms; and the influence of these processes on the physical environment of man.

VOCATIONAL SUBJECTS

Not more than four units are allowed in the following vocational subjects, including business subjects, manual subjects, domestic art and science, and agriculture.

Business Subjects

Business Law (one-half unit).—The object of this study is not to make "every man his own lawyer," but rather to enable him to keep out of legal complications. Text-book supplemented by study of a few typical cases, and practice in drawing up ordinary legal papers, such as bills, notes, checks, etc.

Business Arithmetic (one-half unit).—The object is, first of all, absolute accuracy and, secondly, speed in ordinary business complications. The topics to be emphasized are fundamental operations, common fractions having as denominator 2, 3, 4, 6 and 8,

a few common weights and measures, percentage and its applications, and useful short methods, especially interest and other calculation tables. The work should be based on a text-book, supplemented by numerous live exercises from current sources.

Elementary Bookkeeping (one unit).—A text-book should be employed with exercises so arranged that no two pupils will do exactly the same work, and no credit should be allowed unless the work is done neatly, accurately, and at a satisfactory rate of speed. It is suggested that double periods be provided, and all work be done in class under the eye of the instructor. The set used should include the journal, cash book, sales book, ledger, check book, bank pass book, and trial balance book.

Advanced Bookkeeping and Business Practice (one unit).—Thorough drill on standard business forms, such as bills, receipts, checks, notes, etc., also on the use and meaning of business symbols and abbreviations. The student should become acquainted with the bill book and invoice book, and loose leaf and voucher systems of bookkeeping. Each student should carry on a business of his own, first as individual, then as a partnership, and finally as a corporation. Credit on this course should mean that the student lacks only age and actual business experience to become a competent bookkeeper.

Stenography and Typewriting (two units).—This work is expected to occupy not less than two periods daily for two years. No credit should be given for either shorthand or typewriting if taken alone. Nothing but the touch method should be used in typewriting. The essentials are, first, accuracy and speed in taking dictation and transcribing notes; secondly, correct spelling, capitalization, punctuation, and paragraphing. The minimum speed at the end of the first year should be 75 words per minute in dictation and 25 words per minute on the machine; and at the end of the second year, 100 words per minute in dictation and 35 words per minute in transcribing notes. Thorough training should also be given in care of the machine, in modern methods of manifolding, and in filing papers.

Manual Subjects

Owing to the fact that drawing and shop work do not require outside preparation they should not be credited by the schools on the same basis as the academic subjects. Therefore half credits are allowed; that is, one full credit for two years of work one period daily, or for one year of work two periods daily, in each subject.

Freehand Drawing (two units).

Mechanical Drawing (two units).

Joinery (one-half unit).

Wood Turning and Cabinet Making (one-half unit).

Pattern Making and Forge Shop (one-half unit).

Machine Shop, Including Chipping, Filing, and Work on the Iron Lathe (one-half unit).

Drill Press and Iron Planer, Clay Modeling (one-half unit).

Wood Carving (one-half unit).

Domestic Art and Science

Domestic Art, including Carefully Graded Exercises in Sewing (two units).

Domestic Science, including Practical Cookery and Household Economy (two units).

Agriculture

Agriculture is accepted for from one to four credits from schools receiving special state aid for Agriculture, and also from other schools in which such course in Agriculture is approved by the State High School Board, as fast as the said schools are prepared to offer work in Agriculture.

DEGREES

The candidate for a degree must complete the requirements for graduation in his course. Any person may undergo, at suitable times, an examination in any subject, and if such person pass in all the studies and exercises of the course, he is entitled to the appropriate degree; provided, however, that at least one full year (the one immediately preceding the granting of the degree) must be spent at the University, before such degree shall be granted, and provided that examination, in every case, be held before a committee of the Faculty appointed for that purpose.

For detailed information concerning requirements, see the bulletin of the appropriate college and school.

The degrees Bachelor of Arts, Bachelor of Arts in Education, Bachelor of Science, Master of Science, Master of Arts, Doctor of Philosophy, Doctor of Science, Civil Engineer, Mechanical Engineer, Electrical Engineer, Architect, Engineer of Mines, Engineer of Mines in Geology, Metallurgical Engineer, Bachelor of Science in Engineering, Bachelor of Science in Architecture, Bachelor of Science in Chemistry, Bachelor of Science in Chemical Engineering, Bachelor of Laws, Doctor of Medicine, Doctor of Dental Surgery, and Bachelor of Pharmacy, are conferred after recommendation by the Deans of the respective colleges, by vote of the Regents.

THE UNIVERSITY STATE TEACHER'S CERTIFICATE

Graduates of the College of Science, Literature, and the Arts may receive the University State Teacher's Certificate under the following conditions:

First: They must have maintained a good average of scholarship throughout the four years of college study.

Second: They must have the recommendation of at least one department concerned with high school studies.

Third: They must have completed Philosophy 1a or 1b and Courses 1 and 2 or Course 3 in Education, with sufficient additional work in Education to make a total of fifteen credits, including those specified in Philosophy.

This certificate by State Law authorizes students to teach in the public schools of Minnesota for two years from date. After that time, upon satisfactory evidence of success, the certificate may be made permanent by the endorsement of the State Superintendent of Public Instruction and the President of the University.

EXPENSES

FEES

Deposit Fee

At the beginning of each year, in addition to the first semester incidental fee, a deposit fee of five dollars (\$5.00) is required of every student to cover the following items:

| | |
|--|-------------------------|
| Change of registration..... | \$2.50 per subject |
| Examination for removal of condition, at set time . | 1.00 per subject |
| Rental of post-office box, University post-office (required of all)..... | .50 per year |
| Locker rental, locker key deposit..... | \$.50 to 1.00 per year |
| Case-book deposit (Law School), laboratory breakages, or damage to University property. | |

Penalties for late registration or late payment of fees.

A penalty fee of one dollar (\$1.00) must be paid by all students who register or pay fees after the prescribed time. (See calendar, page 5.) After the day previous to that on which classes begin, the penalty for delay increases at the rate of twenty-five cents a day.

The unused balance of the deposit fee will be returned at the end of each year. If, at any time during the college year, the amount of charges against a student exceed the amount of the deposit, a second fee of five dollars (\$5.00) will be required.

Special Fees

The following special items may be included in the expenses of a student:

| | |
|--|--------|
| Special examination for removal of condition, at other than the set time | \$5.00 |
| Examination on subject taken out of class | 5.00 |
| No fee for such examinations on first entering the University, if taken within the first six weeks | |
| Military uniform, men, about | 15.00 |
| Gymnasium suit, men and women | 5.00 |

Incidental Fees

One-half of the annual incidental fee, which includes all laboratory charges, is payable at the beginning of each semester. Cards entitling the student to admission to classes will not be issued until the fees have been paid:

Science, Literature, and the Arts:

| | |
|--|----------|
| Annual incidental fee, resident | \$ 30.00 |
| Annual incidental fee, non-resident | 60.00 |
| Music, Courses 4 and 5 (1½ hours per week), annually . . . | 64.00 |
| Courses 4 and 5 (3 hours per week), annually | 128.00 |

College of Engineering and the Mechanic Arts:

| | |
|--|----------|
| Annual incidental fee, resident and non-resident | \$ 50.00 |
|--|----------|

College of Agriculture:

| | |
|---|----------|
| Annual incidental fee, resident | \$ 30.00 |
| Annual incidental fee, non-resident | 60.00 |

College of Law:

| | |
|---------------------------------|----------|
| Annual incidental fee | \$ 65.00 |
|---------------------------------|----------|

College of Medicine and Surgery:

| | |
|---|----------|
| Annual incidental fee for students entering in and after September, 1910 | \$150.00 |
| Hospital fee (Jr. and Sr. years) | 3.00 |

College of Dentistry:

| | |
|---------------------------------|----------|
| Annual incidental fee | \$150.00 |
|---------------------------------|----------|

College of Pharmacy:

| | |
|--|----------|
| Annual incidental fee, two-year course | \$ 82.50 |
| Annual incidental fee, three-year course | 55.00 |

School of Mines:

First Year Five-Year Courses

| | |
|---|----------|
| Annual incidental fee | \$ 55.00 |
| Books (Estimated) | 20.00 |
| Note books and supplies (Estimated) | 5.00 |

Freshman Year

| | |
|---|----------|
| Annual incidental fee | \$ 55.00 |
| Books (Estimated) | 25.00 |
| Draughting instruments (Estimated) | 15.00 |
| Note books and supplies (Estimated) | 5.00 |

Sophomore Year

| | |
|---|------------------|
| Annual incidental fee | \$ 55.00 |
| Field work { Surveying } | 100.00 to 150.00 |
| (May 1st to July 1st) { Geological } | |
| Books (Estimated) | 15.00 |
| Note books and supplies (Estimated) | 5.00 |

Junior Year

| | |
|---|------------------|
| Annual incidental fee | \$ 55.00 |
| Field work { Metallurgy } | 175.00 to 250.00 |
| (May 1st to July 1st) { Mining } | |
| Books (Estimated) | 30.00 |
| Note books and supplies (Estimated) | 5.00 |

Senior Year

| | |
|---|----------|
| Annual incidental fee | \$ 55.00 |
| Books (Estimated) | 30.00 |
| Note books and supplies (Estimated) | 5.00 |

School of Chemistry:

Annual incidental fee \$ 55.00

College of Education:

Annual incidental fee, resident \$30.00

Annual incidental fee, non-resident 60.00

The Graduate School:

Annual incidental fee \$ 30.00

Proportionate fees for less than full work

Special Incidental Fees

Students in Science, Literature, and the Arts and Education who are engaged in teaching nine hours or less, \$7.50 per semester. More than nine hours full tuition.

Wives of members of the Faculty and persons employed by the University, \$1.00 per credit hour.

A student in one college taking a course in another shall pay in addition the fees of that college pro rated in the proportion of credit hours taken to the full number of credit hours required.

LIVING EXPENSES

With the exception of Sanford Hall, which is open to a limited number of woman students, the University of Minnesota has no dormitory systems, and all students are thrown upon their own responsibility in obtaining boarding and rooming places. (For an account of Sanford Hall, see page 63.)

The expense of living at the University varies greatly according to individual habits and tastes. In general the scale of expenses is below rather than above that of similar institutions in the middle west and is considerably lower than that of most institutions situated in the eastern states.

Several years ago a number of young men and women, at the request of University Officials, kept careful account of their expenses for the University year. The result was that the expenses of the young men ranged from two hundred and seventeen to three hundred and ninety-seven dollars for the University year. The same students earned sums varying from two hundred and thirty-seven to two hundred and seventy-two dollars. The young women report expenses varying from one hundred and fifty to three hundred and fifty-five dollars. These figures do not include fees and, as the cost of living has increased decidedly, probably twenty-five per cent should be added to these figures to make them safe.

The students upon whose statements these figures are based were representative students; they were not extravagant nor did they deny themselves unduly to get along. While students at present can live within the figure given above, they would not, owing to the increased cost of living, be able to live as comfortably nor to have as many privileges as these students had.

Meals can be had at prices ranging from three dollars per week to as high as the student can afford to pay. In private families board ranges from three to five dollars.

Furnished rooms vary in price from eight to twenty dollars per month. Two students rooming together would of course reduce this expense. It is sometimes possible for a student, rooming alone, to secure a good room at an expense but little higher than when two room together; but such chances are the exception and not the rule. New students will find that they will be more likely to secure comfortable rooms and suitable board if they will consult the general secretary of either the Young Men's or Young Women's Christian Association immediately upon arrival at the University, or if they will correspond with these officers before coming to the University.

The student who learns some trade before coming to the University has a great advantage over the student who has to earn his money by ordinary manual labor. Students have earned their whole expenses while attending the University, and have made good records at the same time. Other students have done so much work that they have not been able to keep up their studies, and have thus missed the one thing for which they were attending the University.

If it is possible for the student to have part of his expenses paid, he should not attempt to earn his way entirely by his own exertions. It is a comparatively easy thing for a young man to earn half his living while attending the University and yet do good work in his classes. Students who want work seldom fail to find it. In coming to the University, the student should bring enough money with him so that he can live comfortably for a few weeks until he can find something to do.

Students who desire advice and assistance in securing a position to help pay their expenses should confer with the Secretary of the Y. M. C. A. at the University.

A pamphlet has been published containing five papers (one by a young woman) relating actual experiences of students who have made their way through the University. Students who contemplate making their own way through college will find here stated some very interesting and encouraging facts. A copy will be sent free to any address upon application.

DEGREES GRANTED IN 1911

Total 647

THE COLLEGE OF SCIENCE, LITERATURE, AND THE ARTS

BACHELORS OF ARTS—199

| | |
|---------------------------------------|--|
| Caroline Rae Ainsworth, Minneapolis | Ida C. Evans, Kasson |
| Edgar Marion Allen, Minneapolis | John Barthell Faegre, Minneapolis |
| Marie Louise Anderson, Minneapolis | Elizabeth Ruth Fagundus, Minneapolis |
| Benjamin Earl Arnold, Brainerd | Augusta Amanda Feton, St. Paul |
| Grace Ferguson Ayers, Minneapolis | Florence A. Foley, Stillwater |
| Felix F. Bangs, Minneapolis | Bernice Burns Foster, Duluth |
| Arthur R. Barke, Fergus Falls | Evelyn Foster, Minneapolis |
| Jean Beryl Barr, St. John, N. B. | Mary Foster, Duluth |
| Julia B. Bell, Minneapolis | Wilfred P. Freligh, Stillwater |
| Charlotte Louise Bieber, Minneapolis | Pansy Myra Gage, Minneapolis |
| Helen Frances Billau, St. Paul | Robert March Gaylord, Minneapolis |
| Mary Grace Birkenhauer, Minneapolis | Bessie Louise Gilger, Minneapolis |
| Frederic Howes Blair, Minneapolis | Glenne W. Goldsmith, Hutchinson |
| Charlotte Carollyn Boller, St. Paul | A. Laird Goodman, Duluth |
| Margaret Ethel Borden, Minneapolis | Fred William Graff, Cooperstown, N. D. |
| Richard Warner Borst, Minneapolis | Mabel Grondahl, Red Wing |
| Susan Edna Boyd, Calais, Maine | Ethel F. Hanke, Minneapolis |
| George Herbert Brande, Minneapolis | Alta Irene Hansen, Kenyon |
| Jessie Ellen Brasie, Monticello | Anna Marie Kjerstine Hansen, Minneapolis |
| Ida L. Brooks, Aberdeen, S. D. | Mary Catherine Haupt, St. Paul |
| Doris Lilian Brown, Minneapolis | Bernhardina Heffner, Minneapolis |
| Sherman L. Brown, Amboy | Hazel L. Hibbard, Minneapolis |
| Henry Van Anda Bruchholz, Minneapolis | Merle Higley, Minneapolis |
| Victor William Bruder, Minneapolis | Drusilla Margaret Hodgson, Fergus Falls |
| Florence L. Buck, Minneapolis | Helen Elaine Holmen, Kenyon |
| Irene Helen Buckley, Minneapolis | Adolph Frederick Holmer, Virginia |
| Arthur C. Burkhard, Preston | Harry Hartwell Hopkins, Claremont, Cal. |
| Lyle Byrnes, Minneapolis | Nina M. Horton, Minneapolis |
| Rebecca Anna Campbell, Stirum, N. D. | Margaret Evah Houck, Summit, S. D. |
| Elisabeth Carey, Minneapolis | Dorothy Rose Hudson, Minneapolis |
| Elizabeth Casey, St. Paul | Lillian Delphine Hughes, Mankato |
| Edward Bradley Cosgrove, LeSueur | Anne Hull, Minneapolis |
| Anna Louise Cotnam, St. Paul | Edith May Hyde, Blooming Prairie |
| Florence Cotton, Minneapolis | Allina Linilla Johnson, Minneapolis |
| Frances W. Cowan, Devils Lake, N. D. | Odin James Johnson, Lyle |
| Carolyn Curtis, Minneapolis | Alta Grace Kelley, Long Lake |
| Harry William Dahleen, Maynard | Albert Gustave Klatt, Waconia |
| Harold John Dane, St. Paul | Lulu Viola Klossner, Winthrop |
| Pearl Janet Davies, Afton | Marjorie Knappen, Minneapolis |
| Josephine Dayton, Minneapolis | Anne Faye Kramer, Minneapolis |
| Louise de la Barre, Minneapolis | Gudrun Krogh, Aberdeen, S. D. |
| Rhoda Jane Dickinson, Minneapolis | Lorna Frances Lange, St. Paul |
| Sabina Belle Donaghue, Minneapolis | Albertine Larson, Halstad |
| John Nealis Donohue, St. Paul | Marion Randall Lawrence, Minneapolis |
| Leah R. Drake, Detroit | Ruth Sara Lee, Stillwater |
| Dana Wallace DuToit, Chaska | Helen P. Leete, Sparta, Wis. |
| James Day Edgar, Minneapolis | Amanda Viola Lenning, Duluth |
| Eda Carolyn Ehri, Minneapolis | Luella C. Lien, Granite Falls |
| Charles Jonas Eisler, Minneapolis | Charlotte Lilienthal, Minneapolis |
| Ruth Erickson, Minneapolis | |

Agnes Molly Lingren, Minneapolis
 Genevieve Love, Wayzata
 Edith Mabelle Lucker, Minneapolis
 Marie Caroline Lyle, Minneapolis
 Clyde James McConkey, Brewster
 Alice Rebecca McCray, Minneapolis
 Helen C. McDermott, Rhinelander, Wis.
 Charles Frederick MacGill, St. Paul
 Lucile McGuire, Northfield
 John Wallace McKenzie, Minneapolis
 Wallace Macmurray, St. Paul
 William James McNally, New Richmond,
 Wis.

Ida Margaret Magnuson, Red Wing
 Amy Magnusson, Duluth
 Irma Ruth Martins, Minneapolis
 Harold Charles Mason, New Richmond,
 Wis.

Ethel R. Matson, Minneapolis
 Adella May Melbourn, Minneapolis
 Mildred Merriman, Vancouver, B. C.
 Mary Richmond Miles, Fergus Falls
 Marguerite Isabelle Millar, Minneapolis
 Elizabeth Williams Miller, Minneapolis
 Emma Fanny Minier, New Richmond,
 Wis.

Helen Isabelle Muir, St. Paul
 Karl G. Nuemeier, Stillwater
 Myrtle Florence Olsen, Minneapolis
 Constance Olsgard, Minot, N. D.
 Mary Oredalen, Kenyon
 Gena Sophia Bertina Ostby, Minneapolis
 Ellen Overlock, Minneapolis
 Benjamin W. Palmer, St. Paul
 Carl Herbert Parks, Montevideo
 Belle France Parsons, Minneapolis
 Helen Holmes Patterson, Minneapolis
 Erich G. Pershon, Young America
 Gustav S. Petterson, Battle Lake
 Louana Phelps, Duluth
 Fidelia Anten Pine, St. Paul
 Anna Elizabeth Pope, Minneapolis
 Russell Blaine Rathbun, Minneapolis
 Laura F. Remund, Waseca
 Caroline Drew Roberts, Minneapolis
 Grace Elizabeth Robinson, Minneapolis
 Rhea Benedict Robinson, Minneapolis
 Clinton Willis Roenisch, Minneapolis
 Dorothy A. Root, Minneapolis
 Elizabeth Mary Rosche, Minneapolis
 Henry B. Rothrick, Minneapolis

Frank Zoubek, Excelsior

Edna Ruble, Minneapolis
 Elise Rushfeldt, Hawley
 Edith V. Sage, Minneapolis
 Helen Atherton Sanborn, Minneapolis
 Sara Elizabeth Sawyer, Minneapolis
 Carrie D. Schabacker, Menomonie, Wis.
 Alice Nellie Schollert, Minneapolis
 Alma O. Schulz, Minneapolis
 Clifford Griffith Schultz, Minneapolis
 Jonas Arnold Sende, Minneapolis
 Hermione Shearer, Minneapolis
 Jane Lotta Shedd, Pasadena, Cal.
 Paul Fyler Shepard, Minneapolis
 Clara Shepley, Minneapolis
 Byron Lloyd Sheppard, Hutchinson
 Eva Rose Sherwin, Monticello
 Frances Elizabeth Shrader, Springfield
 Leighton Robert Simons, Virginia
 Myra Jean Sinclair, Minneapolis
 Alice Louise Smith, Minneapolis
 Ralph G. Smith, Groton, S. D.
 Vera Claire Smith, Minneapolis
 Raymond L. Starrett, Minneapolis
 Dorothy Colburn Stevens, Minneapolis
 Glenn Stennett Stiles, Minneapolis
 Hazel Louise Wheeler Storr, St. Paul
 Louise Amy Strong, Minneapolis
 Mary Dorothy Swain, Elysian
 Esther L. Swenson, Minneapolis
 Blanche Irene Tennison, Monticello
 May Aldyth Thompson, Minneapolis
 Mary Florence Tornstrom, Stillwater
 Emily Hartwell Tupper, Minneapolis
 Florence Aurora Turnquist, Minneapolis
 Selma Henriette Viker, Halsted
 Alfred Theodor Vollum, Hayward
 Elizabeth Roy Ware, Minneapolis
 Frederick Webster Ware, Minneapolis
 Charlotte Waugh, St. Paul
 Roscoe Clayton Webb, Tracy
 Anna Wentz, Red Wing
 Alice May Wessberg, Fergus Falls
 Huldah Lucile Winsted, Minneapolis
 Florence Winterer, Valley City, N. D.
 Hazel Eloise Withee, St. Paul
 Winifred Swift Wood, Jamestown, N. D.
 Lillian Loretta Woolsey, Minneapolis
 Anne Gertrude York, Minneapolis
 Georgia Marion York, Minneapolis
 Blanche M. Young, Minneapolis
 Georgia Ruth Navarre Zeches, St. Charles

BACHELORS OF SCIENCE—27

George Irving Badeaux, Brainerd
 Hazel Bonness, Minneapolis
 Olaf Edward Bratrud, St. Paul
 Walter Douglas Brodie, St. Paul
 Thayer Clinton Davis, Akeley

Richard I. Dorge, Minneapolis
 Will Francis Finley, Minneapolis
 Joseph Moffett Hall, Minneapolis
 John Abner Handy, Minneapolis
 Archibald Wilcox Howe, St. Paul

| | |
|--------------------------------------|--------------------------------------|
| Alexander Josewitch, Minneapolis | Lee Wesley Pollock, Rochester |
| William John Kucera, Hutchinson | Earle Douglass Quinnell, St. Paul |
| Ernest Sidney Mariette, Minneapolis | Charles Morton Robilliard, Faribault |
| Frederick Paul Moersch, St. Paul | Charles Rydell, North Branch |
| Martin Nordland, Minneapolis | Amalie S. Sjolass, Hoffman |
| Silas Arthur Nesse, Mabel | Charles F. Snell, Detroit |
| Walter G. Nuessle, Springfield | Mary Margaret Warwick, Goodhue |
| Thomas Albert Peppard, Minneapolis | Henry W. Woltmann, St. Paul |
| Raymond Wright Whittier, Minneapolis | |

THE COLLEGE OF ENGINEERING AND THE MECHANIC ARTS

CIVIL ENGINEERS—23

| | |
|--------------------------------------|-----------------------------------|
| Arthur Frederick Ainslie, Rochester | Ingwald Kvitrud, Minneapolis |
| Herbert P. Arnesen, Benson | George Alfred Maney, Minneapolis |
| Francis C. Boerner, Duluth | Reuben Andrew Mark, St. Paul |
| William P. Cottingham, Helena, Mont. | George Carl Mattison, Minneapolis |
| Ernest B. Croft, Minneapolis | Clyde Methven, Minneapolis |
| A. E. Elfstrum, Willmar | Ervin J. Miller, Minneapolis |
| Edward Henry Enger, Minneapolis | Martin J. Orbeck, Minneapolis |
| David Pinkus Fieldman, Duluth | Lewis Mitchell Roth, Minneapolis |
| Ralph Meyerhoff Hodnett, St. Paul | Sigvel John Siverson, Minneapolis |
| Michael J. Hoffmann, St. Paul | Sydney H. Smith, Minneapolis |
| Carl Arthur Johnson, Minneapolis | M. Roy Swedberg, Luverne |
| Arthur Carl Walby, Minneapolis | |

MECHANICAL ENGINEERS—10

| | |
|------------------------------------|-------------------------------------|
| Marvin Culver Barnum, Minneapolis | Oscar Arthur Olstad, Minneapolis |
| Ira L. Bishop, Mapleton | Robert C. Oram, Willmar |
| Julian Perkins Farnam, Minneapolis | Leo E. Owens, Minneapolis |
| Walter F. Kasper, Owatonna | Jack Stickney Sneve, St. Paul |
| Martin S. Larson, Red Wing | Joseph Cushman Woodman, Minneapolis |

ELECTRICAL ENGINEERS—29

| | |
|--|------------------------------------|
| Roy H. Ashworth, Minneapolis | Ira Clark McCoy, Rochester |
| George Williams Blossom, Minneapolis | Raymond Eugene McQuillin, Britton, |
| Robert Penn Burrows, St. Paul | S. D. |
| Allan Coffman Butterworth, Minneapolis | Oscar S. Markuson, Fertile |
| Arthur Garner Chapman, Minneapolis | Albert H. Mittag, Elizabeth |
| Charles Sidney Demarest, Minneapolis | George H. Morse, Lincoln, Neb. |
| Leon R. Drinkall, Spring Valley | Walter Harry Nebel, Braham |
| Lynn A. Emerson, Elmore | Raymond J. O'Brien, St. Paul |
| Peter William Forsberg, Minneapolis | Joseph Hill Pengilly, Osseo |
| Harry B. Frederickson, Minneapolis | Louis F. Riegel, Rochester |
| Maurice James Hansen, Hopkins | D. Dayton Shepard, El Reno, Okla. |
| Henry Clay James, St. Paul | Joseph Henry Soulek, Montgomery |
| John E. Johnson, Minneapolis | Will V. Stinson, Minneapolis |
| Watkin W. Jones, Windom | William A. Walker, Moorhead |
| Dartt Hendrickson Lyford, St. Paul | Glenn William Wilson, Dover |

*BACHELORS OF SCIENCE—2

| | |
|----------------------------|------------------------------------|
| Paul E. Klopsteg, Fairmont | Ralph Mueller Hoffman, Minneapolis |
|----------------------------|------------------------------------|

*This degree is granted in these special cases for the completion of the course in Science and Technology no longer offered.

THE COLLEGE OF AGRICULTURE

BACHELORS OF SCIENCE—*In Agriculture*—11

| | |
|-------------------------------------|-------------------------------------|
| Francis Alexander Corniea, Plato | Forrest Herbert Sargent, Red Wing |
| Leroy Vernon Crandall, Red Wing | Mark Joseph Thompson, Winsted |
| Charles Alfred Matthews, Ortonville | Arne G. Tolaas, St. Paul |
| Knute A. Norsen, Fosston | Leroy Uptagrafft, Spirit Lake, Iowa |
| Richard M. Poe, St. Paul | Edward W. Vancura, Lakefield |
| Frank William White, Excelsior | |

BACHELORS OF SCIENCE—*In Forestry*—17

| | |
|---|--------------------------------------|
| David A. Arrivee, St. Paul | Adolph G. Hauge, Albert Lea |
| Frank Wilson Beard, Minneapolis | Julius Valentine Hofmann, Janesville |
| Clarence Winthrop Bowen, Jr., Minneapolis | William Henry Kenety, Fulda |
| James Roy Brownlie, Davenport, Iowa | Dean W. Martin, Minneapolis |
| Hugh Bryan Campbell, Stillwater | Arthur Frederick Oppel, Fulda |
| Walter L. Eisenach, Ely | William Underwood, Hutchinson |
| James Rozel Gillis, Superior, Wis. | Henry Goessler Weber, Minneapolis |
| Carl Lewis Hamilton, Dubuque, Iowa | Donald T. Williams, Minneapolis |
| | J. Paul Young, Eugene, Oregon |

BACHELORS OF SCIENCE—*In Home Economics*—9

| | |
|---|----------------------------------|
| Clara L. Aust, Minneapolis | Mabel Edna Regan, St. Paul |
| Ethel Evans Chase, St. Paul | Maude Bessie Rice, Windom |
| Madge Leona Glotfelter, Minneapolis | Minnie Anna Schrepel, Le Sueur |
| Leola Marie Howard, St. Paul | Florence Sophia Strong, St. Paul |
| Charlotte Armene Raymond, Summit, S. D. | |

THE COLLEGE OF LAW

DOCTOR OF CIVIL LAW—1

Hugh Victor Mercer, LL. M., Minneapolis

MASTERS OF LAWS—10

| | |
|--------------------------------------|-------------------------------------|
| Arthur T. Adams, Minneapolis | Edward John Lee, St. Paul |
| Josiah Eschel Brill, Minneapolis | Everett Judson Mohl, St. Paul |
| Benjamin F. Groat, Minneapolis | John Edward Sundberg, Kennedy |
| Julius Waldemar Held, St. Louis Park | Reuben G. Thoreen, Stillwater |
| Harry Alexander Irwin, Belle Plaine | Cecil Elisha Warner, Ashville, Ohio |

BACHELORS OF LAWS—105

| | |
|--------------------------------------|--|
| George J. Andrews, Paynesville | Edward Babb Cutter, Anoka |
| Alfred E. Bollum, Minneapolis | Darlington, Davenport, Ph. B., Minneapolis |
| Arthur De Forest Bornemann, Hallock | |
| Carleton E. Bradley, Minneapolis | Charles Louis De Reu, Marshall |
| Leon Lester Bulen, Minneapolis | Karl Andrea Dibble, Minneapolis |
| John Ralph Bullard, Waseca | Augustus Sylvester Dowdall, Minneapolis |
| George Alfred Carleton, Minneapolis | Myron Lynn Ellis, Kasson |
| Alexander R. Chesnut, Minneapolis | Harold Newton Falk, Minneapolis |
| Sherman Child, Minneapolis | Albert Daniel Flor, New Ulm |
| John Robert Coan, Minneapolis | William E. Flynn, Caledonia |
| Arthur Thomas Conley, Bristol, S. D. | Edward Leo Fogarty, Buffalo |
| John Roland Connelly, Savage | Earle Johnson Frisbee, Le Roy |

- George M. Gilbert, Duluth
 Walter Gonska, Duluth
 Frank Peter Goodman, Sheldon, N. D.
 Gordon Grimes, Minneapolis
 Herbert L. Halliday, Minneapolis
 Gustav Halvorson, Wanamingo
 Paul Morrison Hatfield, Sioux City, Ia.
 Albert Weiser Heidel, Minneapolis
 Edwin Albert Hendricks, Minneapolis
 Maurice A. Hessian, Le Sueur
 Edwin Arnold Hobbs, Canton, Ill.
 Gustave S. Holm, Minneapolis
 Harold J. Hull, Minneapolis
 Maurice Jenness, B.A., Minneapolis
 Buford Paul Johnson, Minneapolis
 Charles Francis Kelly, Schuyler Lake,
 N. Y.
 Arthur Raymond Knox, Fulda
 Robert Knutson, Albert Lea
 Ferdinand Aloysius Kranz, Minneapolis
 Evert R. Lanterman, B.A., Mandan,
 N. D.
 Jay A. Larkin, B.A., St. Paul
 Orrin Henry Larrabee, Minneapolis
 Walter Freeman Larrabee, Minneapolis
 L. Leonard Larson, St. Paul
 Harold C. Lindgren, Adrian
 Verner V. Lindgren, Adrian
 Ernest W. Lonquist, Minneapolis
 George M. McCanna, McCanna, N. D.
 Willis Gorman McCrady, Minneapolis
 Robert Hugh McCune, B.A., Benson
 Francis Louis McDonald, Minneapolis
 Millard Halpin McDonald, Minneapolis
 James Knox McDowall, Minneapolis
 John Alexander McHardy, Minneapolis
 John Francis McGovern, Minneapolis
 Albert Edward McMahon, St. Cloud
 William H. Markham, Independence,
 Wis.
 Fayette Elam Marsh, Stillwater
 Ebin Luther Melin, Minneapolis
 John Richard Naeseth, Zumbrota
 Harold Soren Nelson, Owatonna
 A. J. A. Ness, Hector
 John B. Ochu, Minneapolis
 Hervey Augustus Paddock, Oak Park
 Ira Edward Palmer, B.S., Cedar Rapids,
 Iowa
 Alonzo E. Parker, Guthrie Center, Ia.
 James Ewing Patterson, Minneapolis
 Spurgeon E. Paul, Wheaton
 Orley H. Peabody, Minneapolis
 Curtis H. Pomeroy, Moorhead
 Herbert M. Porter, Minneapolis
 Arba Joseph Powers, L.L.B., Granite Falls
 Harry Ravicz, Minneapolis
 Christian Adolph Reineke, Morristown
 Walter Richardson, St. Paul
 Benjamin M. Rigler, Minneapolis
 Mabel Ophelia Sands, Minneapolis
 Roy Le Verne Sanford, Minneapolis
 George A. Schain, Browns Valley
 William Edward Schreyer, Minneapolis
 Lawrence Severson, Forest City, Iowa
 David Calvin Sivright, Hutchinson
 George B. Sjoselius, Duluth
 Serenus B. Skahen, Princeton
 Vance E. Skahen, Minneapolis
 Albert O. Sletvold, Elizabeth
 Edmund C. Spaulding, Mapleton
 Joseph H. Starkey, Mapleton
 Ole Swanjord, Balaton
 Iver Benjamin Swanson, Minneapolis
 Harold R. Taylor, Chaska
 Carl Willard Thoen, Grove City
 Walter J. Trogner, Minneapolis
 Stanley Maybury Vance, Winona
 Olaf S. Vesta, Northfield, Wis.
 Frank Perry Vroman, Minneapolis
 Abbott McConnell Washburn, B.A., Du-
 luth
 Marshall Z. Way, Minneapolis
 Harold Arthur Welch, Minneapolis
 Waldemar Franklin Wendlandt, Man-
 chester, Wis.
 Frank J. Williams, Minneapolis
 Clyde Raymond Yates, Minneapolis

THE COLLEGE OF MEDICINE AND SURGERY

DOCTORS OF MEDICINE—19

- Francis W. Anderson, Dickinson, N. D.
 Moses Barron, St. Paul
 Robert Russell Craig, Willow Range,
 Man.
 Karl Dedolph, St. Paul
 Philip Randall Fulton, Hudson, Wis.
 George Arthur Geist, B.S., St. Paul
 William Howard Hengstler, Willmar
 Paul Harold Kelly, Ph.C., St. Paul
 Walter John Kremer, Cold Springs
 Chandler C. Larkin, Minneapolis
 Archibald Leitch, St. Paul
 Whiting B. Mitchell, Chehalis, Wash.
 Charles A. Olson, St. Paul
 James Wenceslas Papez, Minneapolis
 Erhard A. Rumreich, Pisek, N. D.
 Magnus B. Ruud, B.A., Fosston
 Albert E. Spear, Ph.B., Ft. Worth, Tex.
 Dale D. Turnacliff, Waseca
 Thomas Ziskin, Minneapolis

CERTIFICATES OF COMPLETED COURSE—6

The following students have completed one year of work at Hamline University and three years at the University of Minnesota. They are granted the degree of Doctor of Medicine from the former and certificates of completed work from the latter university.

| | |
|--------------------------------------|--|
| William John Dailey, St. Paul | Antoine A. Laurent, Minneapolis |
| Charles Joseph Goodheart, Graceville | Nicholas William Schumacher, Minneapolis |
| Louis Henry Hedenstrom, St. Paul | Arthur M. Wooster, Minneapolis |

THE COLLEGE OF DENTISTRY

DOCTORS OF DENTAL SURGERY—49

| | |
|--|--------------------------------------|
| Wallace Adolph Altermatt, Springfield | Archie E. Luhman, Dover |
| Otto H. Brede, Minneapolis | Harry H. Lyman, Minneapolis |
| Bert Le Roy Cole, St. Paul | William McDougall, Royalton |
| Oscar Cooperman, Minneapolis | Theodore W. Maves, St. Peter |
| Edward G. De Mots, Minneapolis | Richard S. Maybury, Minneapolis |
| Albert J. Deslaurier, St. Paul | William E. Monroe, Hutchinson |
| Maurice de Trey, Lausanne, Switzerland | William Arthur Moore, Chatfield |
| Edward J. Dvorak, Glencoe | Raymond R. Moorhouse, Minneapolis |
| Henry William Ernst, St. Paul | Arent H. Olson, Preston |
| Guy Buchanan Fairchild, Grand Forks, N. D. | Warren W. Oram, Willmar |
| Carl O. Flagstad, Minneapolis | Johan Ferdinand Peterson, Bemidji |
| Oscar Eilert Fossum, St. James | Walter Raymond Porter, Minneapolis |
| Victor Edmond Gauthier, Virginia | Harvey Wesley Rieke, Gibbon |
| Henry S. Greene, Luverne | William A. Roll, Clontarf |
| Paul Hagen, Crookston | Maurice C. Rosen, Minneapolis |
| Henry Joseph Hall, Rochester | Charles Eugene Rudolph, Annandale |
| Frank Joseph Hartl, New Rockford, N. D. | Truman Leander Stickney, Minneapolis |
| William John Hartung, St. James | James Alfred Thomas, Spencer, Iowa |
| William James Haycock, Tracy | Lloyd Mungo Thorburn, Marshall |
| James L. Henderson, St. Paul | Jesse S. Van Guilder, Cannon Falls |
| Clements J. Johnson, Winthrop | Richard Vig, Fosston |
| John Patrick Kelly, Minneapolis | Martin J. Walhus, Spring Grove |
| Nelson Vivian LaDue, Walker | Robert E. Williams, Park Rapids |
| Arthur O. Lindquist, Minneapolis | George Emil Wolf, St. Paul |
| | Sam Ziegler, Stillwater |

THE COLLEGE OF PHARMACY

BACHELORS OF PHARMACY—23

| | |
|-------------------------------------|--|
| Edward M. Adams, Wayzata | Richard Burton Meland, Pelican Rapids |
| Ben G. Anderson, Wheaton | Susan S. Millard, Breckenridge |
| Benedict Samuel Ash, Delano | Rex G. Nelson, New Richland |
| Alberta J. Austin, Milbank, S. D. | Alice Prentice Newsom, Menomonie, Wis. |
| Roy J. Boardman, Rochester | Albert Wilhelm Peterson, Litchfield |
| Samuel John Broude, Minneapolis | Marie Estelle Prevost, Big Timber, Mont. |
| Oscar H. Erickson, Canby | Ross J. Reynolds, Graceville |
| Frank Ambrose Gifford, Madison Lake | Adolph F. Rood, Minneapolis |
| Manley Hewitt Haynes, Minneapolis | Louis Spiegel, Minneapolis |
| Wilfred Raowl Laliberte, Crookston | Frank August Steiner, Mankato |
| Edward M. Marsh, Pine Island | James Louis Titus, Bera, Ky. |
| Frank J. Weber, Le Sueur Center | |

THE SCHOOL OF MINES

ENGINEERS OF MINES—26

| | |
|-------------------------------------|--------------------------------------|
| Theodore Schwan Abbot, St. Paul | A. Stanley Hill, Minneapolis |
| Joseph H. Anderson, Minneapolis | John J. Hurley, Pine City |
| Walter Carl Anderson, Hopkins | William Frederick Jahn, Winona |
| Paul Thorndyke Bailey, Minneapolis | Neil Stetson Kingsley, Minneapolis |
| Emory P. Baker, Minneapolis | Milton Seigfred Lindholm, Ortonville |
| Charles S. Beck, Lewiston | Ervin W. McCullough, St. Paul |
| Anshelm Cyrus Borgeson, Minneapolis | Harold Joseph Rahilly, Minneapolis |
| Robert J. Burgess, Minneapolis | *Samuel Gilbert Swartz, St. Paul |
| Charles Stevens Crouse, Minneapolis | John Richard Tetlie, Minneapolis |
| George Morgan Drake, Madelia | Edwin Harold Walker, Minneapolis |
| Victor Emanuel Ekloff, Cokato | Charles W. Walters, Minneapolis |
| Jay R. Elliot, Minneapolis | Arthur John Wehr, White Bear |
| Victor Leroy Fixen, Minneapolis | Lloyd Robert Whitson, Fergus Falls |

THE SCHOOL OF CHEMISTRY

BACHELORS OF SCIENCE—*In Chemistry*—10

| | |
|-----------------------------------|--|
| William F. Cantwell, St. Paul | Francis Maury Leavenworth, Minneapolis |
| Henry A. Halvorson, Minneapolis | P. Raymond McMiller, Minneapolis |
| John Glynn Hartnett, Graceville | Arthur Orlando Olson, Montevideo |
| Hugh Jerome Hennessy, Minneapolis | Earl Pettijohn, B.A., St. Paul |
| Einer Johnson, B.A., Minneapolis | Ernest Albert Stoppel, Rochester |

BACHELORS OF SCIENCE—*In Chemical Engineering*—3

| | |
|----------------------------------|----------------------------------|
| Russell E. Baker, Minneapolis | John Bernice Bolton, Minneapolis |
| Roy Samuel Callaway, Minneapolis | |

THE COLLEGE OF EDUCATION

BACHELORS OF ARTS—*In Education*—34

| | |
|---|--------------------------------------|
| Joseph Elmer Anderson, Amboy | Ruth Elizabeth Hermann, Minneapolis |
| Fred A. Andert, Morris | Dora Jensen, Minneapolis |
| Kate J. Bartholf, Minneapolis | Hermine Rosalie König, Minneapolis |
| Frances Elvira Blake, St. Paul | Nettie C. Moulton, Dawson |
| Minnie Brattland, Ada | Wesley E. Peik, Jordan |
| Georgia L. Burgett, Faribault | Ruth Esther Peterson, Ortonville |
| Harold Kendall Chance, Gheen | Ilse Gertrud Probst, St. Paul |
| Jennie Clark, St. Paul | Alla Burtis Ransom, Minneapolis |
| Alice Louise Corbett, St. Paul | Frances Helen Relf, St. Paul |
| Helen Lois Currier, Minneapolis | Bess Lois Shannon, Minneapolis |
| Ida Frances Davison, Granada | Mary Ethel Spencer, Hankinson, N. D. |
| Vivienne Rose Doherty, St. Paul | Theodor Herman Steffen, New Ulm |
| Grace Fern Doremus, Duluth | Vera E. Strickler, New Ulm |
| Marie Erd, Duluth | Earl Sweet, Blue Earth |
| Blanche Bernice Grand-Maitre, Chipewa Falls, Wis. | Elsie L. Switzer, Minneapolis |
| Pearl Catherine Hansen, Duluth | Paul Vander Eike, Minneapolis |
| Robert James White, Amboy | Clementine Regina Whaley, St. Paul |

*Deceased

THE GRADUATE SCHOOL

MASTERS OF ARTS—26

| | |
|---|---------------------------|
| Nanda M. Berger, B.A. '09, Minnesota | St. Paul |
| Major, Mathematics; Minors, Mechanics, Spanish | |
| Thesis, Geometric Constructions with the Compass | |
| William Bethke, B.A. '10, Minnesota | Franklin |
| Major, Political Science; Minors, Economics, Philosophy | |
| Thesis, The Grand Jury System | |
| Frederick McRae Byers, Ph.B. '87, Northwestern | Minneapolis |
| Major, Latin; Minors, English, Latin | |
| Thesis, Reign and Character of Tiberius | |
| George Archibald Clark, B.L. '91, Minnesota | Stanford University, Cal. |
| Major, Animal Biology; Minor, Latin | |
| Thesis, The Fur Seal of the Pribilof Islands | |
| May Gibson, B.A. '05, Minnesota | Minneapolis |
| Major, Latin; Minors, Greek, Philosophy | |
| Thesis, A Study of Seneca's Moral and Religious Doctrines | |
| Ellen Mary Giltinan, B.A. '10, Minnesota | Minneapolis |
| Major, German; Minors, English, Philology | |
| Thesis, Joan of Arc in Poetry | |
| Henry Peter Goertz, Ph.B. '10, Hamline | Mountain Lake |
| Major, Economics; Minor, Political Science | |
| Thesis, The Twin City Rapid Transit Company | |
| Frederick Butler Harrington, B.A. '07, Oberlin | Morgan |
| Major, Education; Minor, Psychology | |
| Thesis, Some Considerations in Connection with a Modern Course of Study | |
| Erwin Stearns Hatch, B.A. '03, Steinman College, Ill. | St. Louis Park |
| Major, Education; Minor, Psychology | |
| Thesis, A present Demand of Our Educational System | |
| Mabel Estella Hibbard, B.L. '06, California | Minneapolis |
| Major, Political Science; Minor, Economics | |
| Thesis, A Study in Corrupt Practices Legislation | |
| Albert P. Hovey, B.A. '09, Minnesota | Minneapolis |
| Major, Economics; Minors, English; Philosophy | |
| Thesis, Co-operation between Growers of Perishable Produce in the South | |
| Etheleen Frances Kemp, B.A. '10, Minnesota | Minneapolis |
| Major, History; Minors, English, Political Science | |
| Thesis, The Committee of Safety, 1642-44 | |
| Walter Otis Lippitt, B.S. '03, Carleton | Excelsior |
| Major, Economics; Minor, Political Science | |
| Thesis, Industrial Education in Our Public Schools | |
| Freeman E. Lurton, B.S. '94, M.S. '97, Carleton | Anoka |
| Major, Education; Minor, Psychology | |
| Thesis, Repeating and Retardation in the Schools of Minnesota | |
| Ethel Noyes McCauley, B.A. '07, Minnesota | McCauleyville |
| Major, English; Minors, Latin, German | |
| Thesis, The Literary Development of Robert Louis Stevenson | |
| Anna E. Maguire, B.A. '03, Nebraska | Mitchell, S. D. |
| Major, Psychology; Minors, English, Psychology | |
| Thesis, The Binet Tests as Applied to Pupils in the Eighth Grade | |
| Florence Lauretta Mathes, B.A. '10, Minnesota | St. Paul |
| Major, English; Minors, Philosophy, Sociology | |
| Thesis, The Ibsenism of George Bernard Shaw | |
| Peter Nehleen, B.A. '10, Gustavus Adolphus | Minneapolis |
| Major, Swedish; Minors, Greek, Philology | |
| Thesis, Influences of Greek Literature on Johan Ludvig Runeberg, the National Poet of Finland | |

- Richard Ager Newhall, B.A. '10, Minnesota
Major, History; Minors, Greek, Philosophy
Thesis, The Conspiracy of Cataline: A Political Episode
Minneapolis
- Olga Sybil Pinkus, B. A. '10, Minnesota
Major, English; Minors, Philosophy, Sociology
Thesis, An Interpretation of the Mystic, Symbolic, and Poetic Dramas of Ibsen's
Last Period
St. Paul
- Richard Joseph Purcell, B.A. '10, Minnesota
Major, History; Minors, Political Science, French
Thesis, The Council of the Protectorate, 1653-9
Minneapolis
- Eugene A. Rateaver, B.A. '08, St. Olaf
Major, Political Science; Minors, Economics, Sociology
Thesis, The French Administrative Policy in Madagascar
St. Anthony Park
- Edith Kuhlmeier Rowley, B.A. '10, Minnesota
Major, German; Minors, Physical Geography, Philology
Thesis, The Faust Legend as a Poetical Expression of the Age
Minneapolis
- Adolph Frederick Sandquist, B.A. '10, Gustavus Adolphus
Major, Swedish; Minors, English, German
Thesis, Gustaf af Geijerstam: A Study in Pessimistic Realism
Copas
- Pauline S. Schmidt, B.A. '08, Minnesota
Major, German; Minors, Education, Philology
Thesis, The Grail Legend as Treated by Wolfram von Eschenbach, Wagner,
Tennyson, and Lowell
Minneapolis
- Benjamin Franklin Zuehl, B.D. '06, B.A. '07, Western Union College
Major, Psychology; Minor, Sociology
Thesis, The Association-Reaction Method Applied to Religious and Moral Terms
St. Paul

MASTERS OF SCIENCE—7

- Franz A. Aust, B.A. '08, Minnesota
Major, Physics; Minors, Electrical Engineering, Mathematics
Thesis, The Electrical Discharge from a Pointed Conductor to a Hemispherical
Surface in Gases at Different Pressures
Minneapolis
- Grace Mary Bell, B.A. '09, Minnesota
Major, Chemistry; Minors, Chemistry, Botany
Thesis, The Alkali Salts of Tribromguaiaicol
St. Paul
- Florence Mayfred Briggs, B.A. '09, Minnesota
Major, Psychology; Minors, Psychology, Education
Thesis, A Study in Method of Correcting Stuttering and Stammering
St. Paul
- Farrington Daniels, B.S. in Chem. '10, Minnesota
Major, Physical Chemistry; Minors, Physics, Botanical Microchemistry
Thesis, An Apparatus for the Determination of Vapor Pressures by the Dynamic
Method
Minneapolis
- Ben-Hur Kepner, B.A. '10, Minnesota
Major, Organic Chemistry; Minors, Physical Chemistry, Agricultural Chemistry
Thesis, A Chemical Study of Wheat
Appleton
- Andrew P. Peterson, B.S. in Chem. '10, Minnesota
Major, Chemistry; Minors, Electric Power, Physics
Thesis, A Chemical Study of Lignite
Lamberton
- Frederick William Poppe, B.A. '10, Lawrence
Major, Organic Research; Minor, Physical Chemistry, Advanced Mineralogy
Thesis, The Action of Iodine on Pinene and the Resins Formed by the Action of
Iodine on Pinene
Appleton, Wis.

DOCTOR OF PHILOSOPHY—1

- Louis Williams McKeehan, B.S. in Eng. '08, M.S. '09, Minnesota
Major, Physics; Minors, Mathematics, Astronomy
Thesis, The Terminal Velocity of Fall of Small Spheres in Air at Reduced
Pressures
Minneapolis

HONORS, CERTIFICATES, PRIZES

Degrees with Distinction

IN ANATOMY

George W. Snyder

IN ENGLISH

Jean Beryl Barr
Charlotte Lilienthal

Wallace Macmurray
Clementine R. Whaley

IN FRENCH

Anna Louise Cotnam

Evelyn Foster

May Aldyth Thompson

IN GEOLOGY

Paul Vander Eike, Minneapolis

IN GERMAN

Arthur C. Burkhard

Vivienne R. Doherty
Mary Florence Tornstrom

IN HISTORY

Sabina Belle Donaghue
Merle Higley

Helen I. Muir
Frances H. Relf

IN LATIN

Elisabeth Carey

IN MATHEMATICS

Doris Lilian Brown

Hazel Eloise Withee

IN SOCIOLOGY AND ANTHROPOLOGY

Gustav S. Petterson

Edith V. Sage

Certificates of Proficiency in Music

Grace Donohue
Mary Edwards
Corinne Elken
Lillian Hanson

Magdalene Holter
Gertrude Murphy
Catherine Payne
Marguerite Scott
Pearl Sutherland

The '89 Memorial Prize in History

Awarded to Frances H. Relf

The Albert Howard Scholarship

Awarded to Ethleen Kemp, B.A.

The Shevlin Fellowship—Academic

Awarded to William Bethke, B.A.

*Honor Graduates of the Military Department to be Reported to the Secretary
of War and the Adjutant General of Minnesota*

CADET MAJORS

Robert Penn Burrows

William F. Cantwell

Richard Ager Newhall

CADET CAPTAINS

Edward Babb Cutter

Clyde James McConkey

Charles Jonas Eisler

Ernest Sidney Mariette

Adolph Frederick Holmer

Earle Douglass Quinnell

Francis Maury Leavenworth

Rhea Benedict Robinson

CADET FIRST LIEUTENANT

James Arnold Sende

SUMMARY OF STUDENTS

1911-12

COLLEGE OF SCIENCE, LITERATURE, AND THE ARTS

| | Men | Women | Total | |
|-------------------------|-----------|------------|------------|------------|
| Senior Class..... | 95 | 165 | 260 | |
| Junior Class..... | 121 | 197 | 318 | |
| Sophomore Class | 193 | 294 | 487 | |
| Freshman Class..... | 305 | 308 | 613 | |
| Unclassed Students..... | 28 | 52 | 80 | |
| | <hr/> 742 | <hr/> 1016 | <hr/> 1758 | <hr/> 1758 |

COLLEGE OF ENGINEERING AND THE MECHANIC ARTS

| | Men | Women | Total | |
|--------------------|-----------|----------|-----------|-----------|
| Post-Senior Class— | | | | |
| Civil..... | 5 | .. | 5 | |
| Electrical..... | 7 | .. | 7 | |
| Mechanical..... | 5 | .. | 5 | |
| | <hr/> 17 | <hr/> .. | <hr/> 17 | <hr/> 17 |
| Senior Class— | | | | |
| Civil..... | 26 | .. | 26 | |
| Electrical..... | 19 | .. | 19 | |
| Mechanical..... | 11 | .. | 11 | |
| | <hr/> 56 | <hr/> .. | <hr/> 56 | <hr/> 56 |
| Junior Class— | | | | |
| Civil..... | 22 | .. | 22 | |
| Electrical..... | 31 | .. | 31 | |
| Mechanical..... | 13 | .. | 13 | |
| | <hr/> 66 | <hr/> .. | <hr/> 66 | <hr/> 66 |
| Sophomore Class— | | | | |
| Civil..... | 38 | .. | 38 | |
| Electrical..... | 40 | .. | 40 | |
| Mechanical..... | 18 | .. | 18 | |
| | <hr/> 96 | <hr/> .. | <hr/> 96 | <hr/> 96 |
| Freshman Class— | | | | |
| Civil..... | 48 | .. | 48 | |
| Electrical..... | 40 | .. | 40 | |
| Mechanical..... | 33 | .. | 33 | |
| | <hr/> 121 | <hr/> .. | <hr/> 121 | <hr/> 121 |
| Irregular..... | 21 | .. | 21 | 21 |

THE DEPARTMENT OF AGRICULTURE

| | Men | Women | Total | |
|-------------------------|----------|----------|----------|----------|
| College of Agriculture— | | | | |
| Graduate Students..... | 14 | 2 | 16 | |
| Special Students..... | 6 | 6 | 12 | |
| Normal Students..... | .. | 65 | 65 | |
| | <hr/> 20 | <hr/> 73 | <hr/> 93 | <hr/> 93 |

| | | | |
|---|-----|-------|-------|
| Agricultural Course: | | | |
| | Men | Women | Total |
| Senior Class..... | 8 | .. | 8 |
| Junior Class..... | 21 | .. | 21 |
| Sophomore Class..... | 41 | .. | 41 |
| Freshman Class..... | 51 | .. | 51 |
| | 121 | .. | 121 |
| Forestry Course: | | | |
| Senior Class..... | 14 | .. | 14 |
| Junior Class..... | 8 | .. | 8 |
| Sophomore Class..... | 23 | .. | 23 |
| Freshman Class..... | 19 | .. | 19 |
| | 64 | .. | 64 |
| Home Economics Course: | | | |
| Senior Class..... | .. | 14 | 14 |
| Junior Class..... | .. | 10 | 10 |
| Sophomore Class..... | .. | 32 | 32 |
| Freshman Class..... | .. | 83 | 83 |
| | .. | 139 | 139 |
| The School of Agriculture— | | | |
| Intermediate Year..... | 18 | 7 | 25 |
| A Class..... | 106 | 42 | 148 |
| B Class..... | 227 | 98 | 325 |
| C Class..... | 247 | 135 | 382 |
| | 598 | 282 | 880 |
| Dairy School..... | 96 | .. | 96 |
| Farmers' Short Course..... | 122 | 5 | 127 |
| Junior Short Course..... | 203 | 107 | 310 |
| Traction Engineering Course..... | 38 | .. | 38 |
| Teachers' Training School..... | 51 | 838 | 889 |
| College Summer School..... | 25 | 45 | 70 |
| | 535 | 995 | 1530 |
| School of Agriculture at Crookston..... | 122 | 37 | 159 |
| School of Agriculture at Morris..... | 67 | 24 | 91 |
| | 189 | 61 | 250 |
| | | | 250 |

THE LAW SCHOOL

Regular Law

| | | | |
|--|-----|-------|-------|
| | Men | Women | Total |
| Third-Year Day..... | 46 | .. | 46 |
| Second-Year Day..... | 66 | 2 | 68 |
| First-Year Day..... | 22 | 1 | 23 |
| First-Year Day (Academic Seniors)..... | 8 | .. | 8 |
| Fourth-Year Night..... | 24 | 1 | 25 |
| Third-Year Night..... | 15 | 1 | 16 |
| Second-Year Night..... | 16 | 1 | 17 |
| First-Year Night..... | 6 | .. | 6 |
| | 203 | 6 | 209 |
| | | | 209 |

Special Law

| | Men | Women | Total | |
|------------------------|-----------|----------|-----------|-----------|
| Third-Year Day..... | 7 | .. | 7 | |
| Second-Year Day..... | 24 | .. | 24 | |
| First-Year Day..... | 44 | .. | 44 | |
| Fourth-Year Night..... | 5 | .. | 5 | |
| Third-Year Night..... | 7 | .. | 7 | |
| Second-Year..... | 7 | .. | 7 | |
| First-Year Night..... | 22 | .. | 22 | |
| | <hr/> 116 | <hr/> .. | <hr/> 116 | <hr/> 116 |

COLLEGE OF MEDICINE AND SURGERY

| | Men | Women | Total | |
|-------------------------|-----------|----------|-----------|-----------|
| Graduate Students..... | 3 | .. | 3 | |
| Sixth-Year Class..... | 35 | 1 | 36 | |
| Fifth-Year Class..... | 42 | 4 | 46 | |
| Fourth-Year Class..... | 38 | 2 | 40 | |
| *Third-Year Class..... | 60 | 2 | 62 | |
| | <hr/> 178 | <hr/> 9 | <hr/> 187 | <hr/> 187 |
| The School for Nurses— | | | | |
| Third-Year..... | .. | 8 | 8 | |
| Second-Year..... | .. | 10 | 10 | |
| Preliminary Course..... | .. | 4 | 4 | |
| | <hr/> .. | <hr/> 22 | <hr/> 22 | <hr/> 22 |

COLLEGE OF DENTISTRY

| | Men | Women | Total | |
|------------------------|-----------|---------|-----------|-----------|
| Third-Year Class..... | 58 | .. | 58 | |
| Second-Year Class..... | 66 | .. | 66 | |
| First-Year Class..... | 102 | 3 | 105 | |
| Unclassed..... | 18 | .. | 18 | |
| | <hr/> 244 | <hr/> 3 | <hr/> 247 | <hr/> 247 |

COLLEGE OF PHARMACY

| | Men | Women | Total | |
|-------------------------|----------|---------|----------|----------|
| Senior Class..... | 26 | 1 | 27 | |
| Junior Class..... | 43 | .. | 43 | |
| Unclassed Students..... | 6 | 1 | 7 | |
| | <hr/> 75 | <hr/> 2 | <hr/> 77 | <hr/> 77 |

SCHOOL OF MINES

| | Men | Women | Total | |
|-----------------------|----------|----------|----------|----------|
| Seniors..... | 24 | .. | 24 | |
| Juniors..... | 17 | .. | 17 | |
| Sophomores..... | 14 | .. | 14 | |
| Freshmen..... | 22 | .. | 22 | |
| First-Year Class..... | 21 | .. | 21 | |
| | <hr/> 98 | <hr/> .. | <hr/> 98 | <hr/> 98 |

*Second and First-Year students are listed in the College of Science, Literature, and the Arts.

SCHOOL OF ANALYTICAL AND APPLIED CHEMISTRY

| | Men | Women | Total | |
|-------------------------|----------|---------|----------|----------|
| Seniors..... | 18 | .. | 18 | |
| Juniors..... | 17 | 1 | 18 | |
| Sophomores..... | 7 | .. | 7 | |
| Freshmen..... | 16 | 1 | 17 | |
| First-Year..... | 14 | 1 | 15 | |
| Unclassed Students..... | 6 | .. | 6 | |
| | <hr/> 78 | <hr/> 3 | <hr/> 81 | <hr/> 81 |

SCHOOL OF EDUCATION

| | Men | Women | Total | |
|-------------------------|----------|----------|-----------|-----------|
| Graduate Students..... | 8 | 5 | 13 | |
| Seniors..... | 2 | 38 | 40 | |
| Juniors..... | 2 | 33 | 35 | |
| Unclassed Students..... | 2 | 13 | 15 | |
| | <hr/> 14 | <hr/> 89 | <hr/> 103 | <hr/> 103 |

GRADUATE SCHOOL

| | Men | Women | Total | |
|------------------------|-----|-------|-------|-----|
| Graduate Students..... | 101 | 58 | 159 | 159 |

THE UNIVERSITY SUMMER SESSION

| | Men | Women | Total | |
|-------------------------------------|-----|-------|-------|-----|
| Registration (Less Duplicates)..... | 96 | 145 | 241 | 241 |

SUMMARY OF TOTALS

| | Men | Women | Total | |
|---|------------|------------|------------|------------|
| College of Science, Literature, and the Arts..... | 742 | 1016 | 1758 | |
| College of Engineering and the Mechanic Arts.... | 377 | .. | 377 | |
| Department of Agriculture..... | 1527 | 1550 | 3077 | |
| Law School..... | 319 | 6 | 325 | |
| College of Medicine and Surgery (including the School for Nurses)..... | 178 | 31 | 209 | |
| College of Dentistry..... | 244 | 3 | 247 | |
| College of Pharmacy..... | 75 | 2 | 77 | |
| School of Mines..... | 98 | .. | 98 | |
| School of Analytical and Applied Chemistry..... | 78 | 3 | 81 | |
| School of Education..... | 14 | 89 | 103 | |
| Graduate School..... | 101 | 58 | 159 | |
| Summer Session..... | 96 | 145 | 241 | |
| | <hr/> 3849 | <hr/> 2903 | <hr/> 6752 | <hr/> 6752 |
| Less Duplicates..... | 84 | 26 | 110 | 110 |
| | <hr/> 3765 | <hr/> 2877 | <hr/> 6642 | <hr/> 6642 |
| Evening Courses (Economics Extension)..... | 263 | 13 | 276 | |
| Correspondence Courses (Education)..... | 15 | 17 | 32 | |
| Correspondence Courses (Economics)..... | 4 | 1 | 5 | |
| | <hr/> 282 | <hr/> 31 | <hr/> 313 | <hr/> 313 |

Total Registration..... 6955

SUMMARY OF TOTALS (CONTINUED)

| | Men | Women | Total |
|---------------------------------------|------|-------|-------|
| Students of Collegiate Grade..... | 2468 | 1584 | 4052 |
| Students of Non-Collegiate Grade..... | 1297 | 1293 | 2590 |

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